

Molecule: pPJV2002, 5500 bps DNA Circular
 File Name: pPJV2002.cm5,

Description: Ligation of CTA PCR frag Nhe Bam cut into 7054 Nhe Bam Vector

Notes:

Molecule Features:

| Type | Start | End | Name | Description |
|--------|-------|------|------------|-------------|
| REGION | 2242 | 3060 | CMVpro | |
| REGION | 3061 | 3884 | intronA | |
| GENE | 3906 | 3969 | TPAsigCDS' | |
| GENE | 3975 | 4697 | CTA CDS | |
| REGION | 4805 | 5101 | bGHpA | |

Enzymes (15 sites)

| | | | | | | | |
|------|-------|-------|-------|---------|-------|-------|------|
| SalI | 2241, | MscI | 2266, | SpeI | 2356, | SacII | 3009 |
| NsiI | 3106, | PstI | 3879, | HindIII | 3894, | NheI | 3969 |
| ClaI | 4553, | BamHI | 4698, | BglII | 4805, | EcoRI | 5100 |

FIGURE 1-1

Sequence Data

Molecule: pPJV2002, 5500 bps DNA Circular
 Description: Ligation of CTA PCR frag Nhe Bam cut into 7054 Nhe Bam
 Vector
 File Name: pPJV2002.cm5,
 Printed: 1-5500 bps (Full), format Single Strand

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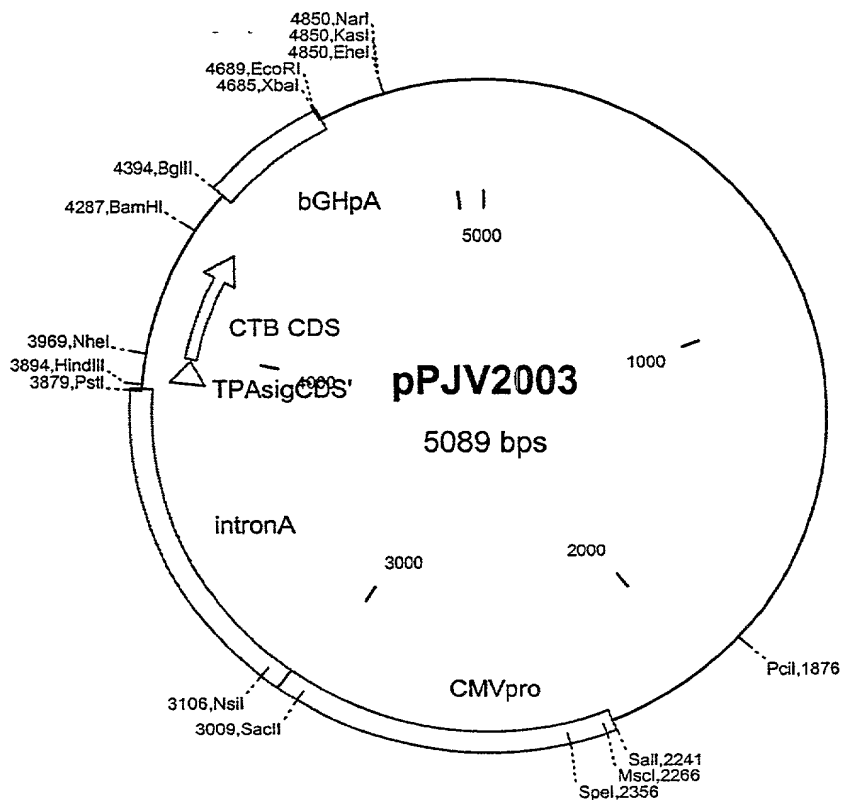
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61  CTTAGACGTC AGGTGGCACT TTTCGGGGAA ATGTGCGCGG AACCCCTATT TGTTTATTTT
121 TCTAAATACA TTCAAATATG TATCCGCTCA TGAGACAATA ACCCTGATAA ATGCTTCAAT
181 AATATTGAAA AAGGAAGAGT ATGAGTATTC AACATTTCCG TGTCGCCCTT ATTCCCTTTT
241 TTGCGGCATT TTGCCTTCCT GTTTTTTGCTC ACCCAGAAAC GCTGGTGAAA GTAAAAGATG
301 CTGAAGATCA GTTGGGTGCA CGAGTGGGTT ACATCGAACT GGATCTCAAC AGCGGTAAAG
361 TCCTTGAGAG TTTTCGCCCC GAAGAACGTT TTCCAATGAT GAGCACTTTT AAAGTTCTGC
421 TATGTGGCGC GGTATTATCC CGTATTGACG CCGGGCAAGA GCAACTCGGT CGCCGCATAC
481 ACTATTCTCA GAATGACTTG GTTGAGTACT CACCAGTCAC AGAAAAGCAT CTTACGGATG
541 GCATGACAGT AAGAGAATTA TGCAGTGCTG CCATAACCAT GAGTGATAAC ACTGCGGCCA
601 ACTTACTTCT GACAACGATC GGAGAGCCGA AGGAGCTAAC CGCTTTTGTG CACAACATGG
661 GGGCCGTGTA AACTCGCCTT GATCGTTGGG AACCGGAGCT GAATGAAGCC ATACCAAACG
721 ACGAGCGTGA CACCACGATG CCTGTAGCAA TGGCAACAAC GTTGCGCAAA CTATTAAGTG
781 GCGAACTACT TACTCTAGCT TCCCAGCAAC AATTAATAGA CTGGATGGAG GCGGATAAAG
841 TTGCAAGACC ACTTCTGCGC TCGGCCCTTC CGGCTGGCTG GTTTATTGCT GATAAATCTG
901 GAGCCGTGTA GCGTGGGTCT CGCGGTATCA TTGCAGCACT GGGGCCAGAT GGTAAGCCCT
961 CCCGTATCGT AGTTATCTAC ACGACGGGGA GTCAGGCAAC TATGGATGAA CGAAATAGAC
1021 AGATCGCTGA GATAGGTGCC TCACTGATTA AGCATTGGTA ACTGTCAGAC CAAGTTTACT
1081 CATATATACT TTAGATTGAT TTAAGACTTC ATTTTAAATT TAAAAGGATC TAGGTGAAGA
1141 TCCTTTTTGA TAATCTCATG ACCAAAATCC CTTAACGTGA GTTTTCGTTC CACTGAGCCG
1201 CAGACCCCGT AGAAAAGATC AAAGGATCTT CTTGAGATCC TTTTTTCTG CGCGTAATCT
1261 GCTGCTTGCA AACAAAAAAA CCACCGCTAC CAGCGGTGGT TTGTTTGCCG GATCAAGAGC
1321 TACCAACTCT TTTTCCGAAG GTAACCTGGT TCAGCAGAGC GCAGATACCA AATACTGTCC
1381 TTCTAGTGTA TGGCTAGTTA GGCCACCCTC TCAAGAACTC TGTAGCACCG CCTACATACC
1441 TCGCTCTGCT AATCCTGTTA CCAGTGGCTG CTGCCAGTGG CGATAAGTCG TGTCTTACCG
1501 GGTGAGACTC AAGACGATAG TTACCGGATA AGGCGCAGCG GTCGGGCTGA ACGGGGGGTT
1561 CGTGACACA GCCCAGCTTG GAGCGAACGA CCTACACCGA ACTGAGATAC CTACAGCGTG
1621 AGCATGTAGA AAGCGCCACG TTCCCCGAAG GGAGAAAGGC GGACAGGTAT CCGGTAAGCG
1681 GCAGGGTCGG AACAGGAGAG CGCACGAGGG AGCTTCCAGG GGGAAACGCC TGGTATCTTT
1741 ATAGTCCTGT CGGGTTTCGC CACCTCTGAC TTGAGCGTCG ATTTTGTGTA TGCTCGTCAG
1801 GGGGGCGGAG CCTATGGAAA AACGCCAGCA ACGCGGCCTT TTTACGGTTC CTGGCCTTTT
1861 GCTGGCCTTT TCTCTACATG TTCTTCTCTG CGTTATCCCC TGATTCTGTG GATAACCGTA
1921 TTACCGCCTT TGAGTGAGCT GATACCGCTC GCCCGAGCCG AACGACCGAG CGCAGCGAGT
1981 CAGTGAGCGA GGAAGCGGAA GAGCGCCCAA TACGCAAAAC GCCTCTCCCC GCGCGTTGGC
2041 CGATTCAATG ATGCAGCTGG CACGACAGGT TTCCCGACTG GAAAGCGGGC AGTGAGCGCA
2101 ACGCAATTAA TGTGAGTTAG CTCTACTCAT AGGCACCCCA GGCTTTACAC TTTATGCTTC
2161 CGGCTCGTAT GTTGTGTGGA ATTGTGAGCG GATAACAATT TCACACAGGA AACAGCTATG
2221 ACCATGATTA CGCCAAGCTA GTGCACATAA ATCAATATTG GCTATTGGCC ATTGCATACG
2281 TTGTATCTAT ATCATAATAT GTACATTTAT ATTGGCTCAT GTCCAATATG ACCGCCATTG
2341 TGACATTGAT TATTGACTAG TTATTAATAG TAATCAATTA CGGGGTCATT AGTTCTATAG
2401 CCATATATGG AGTTCCGCGT TACATAACTT ACGGTAAATG GCCCCCTCTG TGACCGCCCA
2461 ACGACCCCGC CCCATTGACG TCAATAATGA CGTATGTTCC CATAGTAACG CCAATAGGGA
2521 CTTTCCATTG ACGTCAATGG GTGGAGTATT TACGGTAAAC TGCCCACTTG GCAGTACATC
2581 AAGTGATCA TATGCCAAGT CCGGCCCTCT ATTGACGTCA ATGACGGTAA ATGGCCCGCC
2641 TGGCATTATG CCCAGTACAT GACCTTACGG GACTTTCCTA CTTGGCAGTA CATCTACGTA
2701 TTAGTCATCG CTATTACCAT GGTGATGCGG TTTTGGCAGT ACACCAATGG GCGTGGATAG
2761 CGGTTTGACT CACGGGGATT TCCAAGTCTC CACCCCATTG ACGTCAATGG GAGTTTGTTC
2821 TGGCAACAAA ATCAACGGGA CTTTCCAAAA TGTCGTAATA ACCCCGCCCC GTTGACGCAA
2881 ATGGGCGGTA GGCGGTGACG GTGGGAGGTC TATATAAGCA GAGCTCGTTT AGTGAACCGT
2941 CAGATCGCCT GGAGACGCCA TCCACGCTGT TTTGACCTCC ATAGAAGACA CCGGGACCGA
3001 TCCAGCCTCC GCGGCCGGGA ACGGTGCATT GGAACGCGGA TTCCCGCTGC CAAGAGTGAC
3061 GTAAGTACCG CCTATAGACT CTATAGGCAC ACCCCTTTGG CTCTTATGCA TGCTATACTG
3121 TTTTTGGCTT GGGGCCATA CACCCCGCT CTTATGCTA TAGGTGATGG TATAGCTTAG
3181 CCTATAGGTG TGGGTTATTG ACCATTATTG ACCACTCCCC TATTGGTGAC GATACTTTCC
3241 ATTACTAATC CATAACATGG CTCTTTGCCA CAACTATCTC TATTGGCTAT ATGCCAATAC
3301 TCTGTCCTTC AGAGACTGAC ACGGACTCTG TATTTTACAA GGATGGGGTC CCAATTATTA
3361 TTTACAAATT CACATATACA ACAACGCTGT CCCCCTGCC CGCAGTTTTT ATTAAACATA
3421 GCGTGGGATC TCCACGCGAA TCTCGGGTAC GTGTTCCGGA CATGGGCTCT TCTCCGGTAG
3481 CGGCGGAGCT TCCACATCCG AGCCCTGGTC CCATGCCTCC AGCGGCTCAT GGTCGCTCGG
3541 CAGCTCCTTG CTCCTAACAG TGGAGGCCAG ACTTAGGCAC AGCACAATGC CCACCACCAC
3601 CAGTGTGCCG CACAAGGCCG TGGCGGTAGG GTATGTGTCT GAAAATGAGC TCGGAGATTG

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FIGURE 1-2

| | | | | | | |
|------|-------------|-------------|-------------|------------|------------|-------------|
| 3661 | GGCTCGCACC | GTGACGCAGA | TGGAAGACTT | AAGGCAGCGG | CAGAAGAAGA | TGCAGGCAGC |
| 3721 | TGAGTTGTTG | TATTCTGATA | AGAGTCAGAG | GTAACCTCCG | TTGCGGTGCT | GTTAACGGTG |
| 3781 | GAGGGCAGTG | TAGTCTGAGC | AGTACTCGTT | GCTGCCGCGC | GCGCCACCAG | ACATAATAGC |
| 3841 | TGACAGACTA | ACAGACTGTT | CCTTTCCATG | GGTCTTTTCT | GCAGTCACCG | TCCAAGCTTG |
| 3901 | CAATCATGGA | TGCAATGAAG | AGAGGGCTCT | GCTGTGTGCT | GCTGCTGTGT | GGAGCAGTCT |
| 3961 | TCGTTTCGGC | TAGCAATGAT | GATAAGTTAT | ATCGGGCAGA | TTCTAGACCT | CCTGATGAAA |
| 4021 | TAAAGCAGTC | AGGTGGTCTT | ATGCCAAGAG | GACAGAGTGA | GTACTTTGAC | CGAGGTACTC |
| 4081 | AAATGAATAT | CAACCTTTAT | GATCATGCAA | GAGGAACTCA | GACGGGATTT | GTTAGGCACG |
| 4141 | ATGATGGATA | TGTTTCCACC | TCAATTAGTT | TGAGAAGTGC | CCACTTAGTG | GGTCAAACCTA |
| 4201 | TATTGTCTGG | TCATTCTACT | TATTATATAT | ATGTTATAGC | CACTGCACCC | AACATGTTTA |
| 4261 | ACGTTAATGA | TGTATTAGGG | GCATACAGTC | CTCATCCAGA | TGAACAAGAA | GTTTCTGCTT |
| 4321 | TAGGTGGGAT | TCCATACTCC | CAAATATATG | GATGGTATCG | AGTTCATTTT | GGGGTGCTTG |
| 4381 | ATGAACAATT | ACATCGTAAT | AGGGGGCTACA | GAGATAGATA | TTACAGTAAC | TTAGATATTG |
| 4441 | CTCCAGCAGC | AGATGGTTAT | GGATTGGCAG | GTTTCCCTCC | GGAGCATAGA | GCTTGGAGGG |
| 4501 | AAGAGCCGTG | GATTTCATCAT | GCACCGCCGG | GTTGTGGGAA | TGCTCCAAGA | TCATCGATGA |
| 4561 | GTAATACTTG | CGATGAAAAA | ACCCAAAGTC | TAGGTGTAAA | ATTCTTTGAC | GAATACCAAT |
| 4621 | CTAAAGTTAA | AAGACAAATA | TTTTTCAGGCT | ATCAATCTGA | TATTGATACA | CATAATAGAA |
| 4681 | TTAAGGATGA | ATTATGAGGA | TCCTCGCAAT | CCCTAGGAGG | ATTAGGCAAG | GGCTTGAGCT |
| 4741 | CACGCTCTTG | TGAGGGACAG | AAATACAATC | AGGGGCAGTA | TATGAATACT | CCATGGAGAA |
| 4801 | ACCCAGATCT | ACGTATGATC | AGCCTCGACT | GTGCCTTCTA | GTTGCCAGCC | ATCTGTTGTT |
| 4861 | TGCCCCCTCC | CCGTGCCTTC | CTTGACCCTG | GAAGGTGCCA | CTCCCACTGT | CCTTTCCTAA |
| 4921 | TAAAATGAGG | AAATTGCATC | GCATTGTCTG | AGTAGGTGTC | ATTCTATTCT | GGGGGGTGCG |
| 4981 | GTGGGGCAGG | ACAGCAAGGG | GGAGGATTGG | GAAGACAATA | GCAGGCATGC | TGGGGATGCG |
| 5041 | GTGGGGCTCTA | TGGCTTCTGA | GGCGGAAAGA | ACCAGCTGGG | GCTCGACAGC | TCGACTCTAG |
| 5101 | AATTCACCTG | CCGTGCTTTT | ACAACGTCGT | GACTGGGAAA | ACCCTGGCGT | TACCCAACCT |
| 5161 | AATCGCCTTG | CAGCACATCC | CCCTTTCGCC | AGCTGGCGTA | ATAGCGAAGA | GGCCCGCACC |
| 5221 | GATCGCCCTT | CCCAACAGTT | GCGCAGCCTG | AATGGCGAAT | GGCGCCTGAT | GCGGTATTTT |
| 5281 | CTCCTTACGC | ATCTGTGCGG | TATTTACAC | CGCATATGGT | GCACTCTCAG | TACAATCTGC |
| 5341 | TCTGATGCCG | CATAGTTAAG | CCAGCCCCGA | CACCCGCCAA | CACCCGCTGA | CGCGCCCTGA |
| 5401 | CGGGCTTGTC | TGCTCCCGGC | ATCCGCTTAC | AGACAAGCTG | TGACCGTCTC | CGGGAGCTGC |
| 5461 | ATGTGTCTAGA | GGTTTTACAC | GTCATCACCG | AAACGCGCGA | | |

FIGURE 1-3



Molecule: pPJV2003, 5089 bps DNA Circular
 File Name: pPJV2003.cm5,

Description: Ligation of CTB nhe bam cut frag into 7054 Nhe Bam Vector

Notes:

Molecule Features:

| Type | Start | End | Name | Description |
|--------|-------|------|------------|-------------|
| REGION | 2242 | 3060 | CMVpro | |
| REGION | 3061 | 3884 | intronA | |
| GENE | 3906 | 3969 | TPAsigCDS' | |
| GENE | 3975 | 4286 | CTB CDS | |
| REGION | 4394 | 4690 | bGHpA | |

Enzymes (16 sites)

| | | | | | | | |
|-------|-------|-------|-------|-------|-------|---------|------|
| PciI | 1876, | SalI | 2241, | MscI | 2266, | SpeI | 2356 |
| SacII | 3009, | NsiI | 3106, | PstI | 3879, | HindIII | 3894 |
| NheI | 3969, | BamHI | 4287, | BglII | 4394, | XbaI | 4685 |

FIGURE 2-1

Sequence Data

Molecule: pPJV2003, 5089 bps DNA Circular
 Description: Ligation of CTB nhe bam cut frag into 7054 Nhe Bam Vector
 File Name: pPJV2003.cm5,
 Printed: 1-5089 bps (Full), format Single Strand

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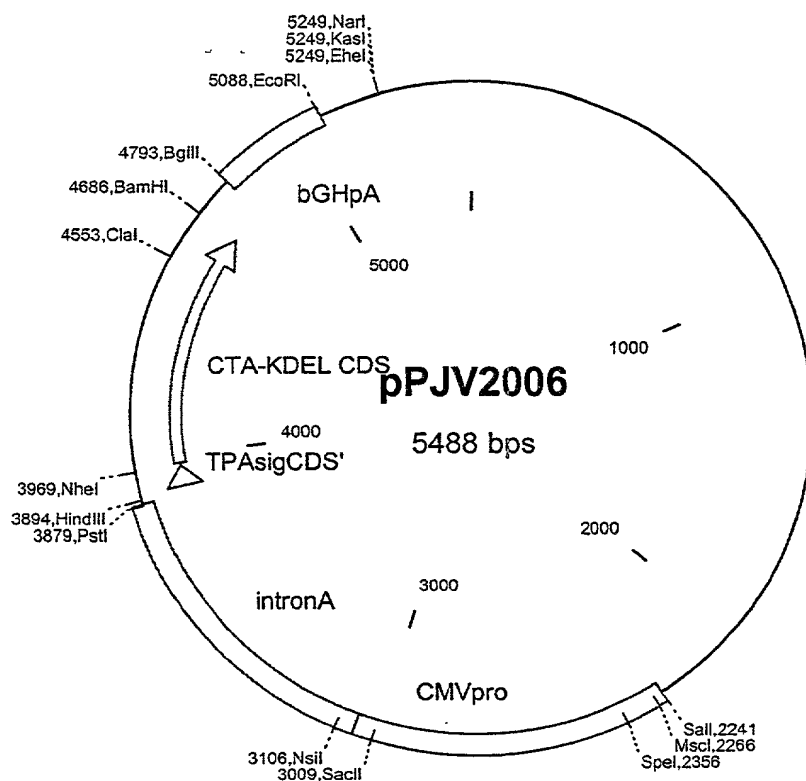
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61  CTTAGACGTC AGGTGGCACT TTTCGGGGGAA ATGTGCGCGG AACCCCTATT TGTTTATTTT
121 TCTAAATACA TTCAAATATG TATCCGCTCA TGAGACAATA ACCCTGATAA ATGCTTCAAT
181 AATATTGAAA AAGGAAGAGT ATGAGTATTC AACATTTCG TGTCGCCCTT ATTCCTTTT
241 TTGCGGCATT TTGCCCTTCT GTTTTTTGCTC ACCCAGAAAC GCTGGTGAAA GTAAAAGATG
301 CTGAAGATCA GTTGGGTGCA CGAGTGGGTT ACATCGAACT GGATCTCAAC AGCGGTAAGA
361 TCCTTGAGAG TTTTCGCCCC GAAGAACGTT TTCCAATGAT GAGCACTTTT AAAGTCTCTG
421 TATGTGGCGC GGTATTATCC CGTATTGACG CCGGGCAAGA GCAACTCGGT CGCCGCATAC
481 ACTATTCTCA GAATGACTTG GTTGAGTACT CACCAGTCAC AGAAAAGCAT CTTACGGATG
541 GCATGACAGT AAGAGAATTA TGCAGTGCTG CCATAACCAT GAGTGATAAC ACTGCGGCCA
601 ACTTACTTCT GACAACGATC GGAGGACCGA AGGAGCTAAC CGCTTTTTTG CACAACATGG
661 GGGATCATGT AACTCGCCTT GATCGTTGGG AACCGGAGCT GAATGAAGCC ATACCAAACG
721 ACGAGCGATG CACCACGATG CCTGCGGCAA TGGCAACAAC GTTGGCGCAA CTATTAAGTG
781 GCGAACTACT TACTCTAGCT TCCCGGCAAC AATTAATAGA CTGGATGGAG GCGGATAAAG
841 TTGCAGGACC ACTTCTGCGC TCGGCCCTTC CGGCTGGCTG GTTTATTGCT GATAAATCTG
901 GAGCCGGTGA GCGTGGGTCT CGCGGTATCA TTGCAGCACT GGGGCCAGAT GGTAAGCCCT
961 CCCGTATCTG AGTTATCTAC ACGACGGGGA GTCAGGCAAC TATGGATGAA CGAAATAGAC
1021 AGATCGCTGA GATAGGTGCC TCACTGATTA AGCATTGGTA ACTGTCAGAC CAAGTTTACT
1081 CATATATACT TTAGATTGAT TTAAGACTTC ATTTTAAATT TAAAAGGATC TAGGTGAAGA
1141 TCCTTTTTGA TAATCTCATG ACCAAATATC CTTAAGCTGA GTTTTCGTTT CACTGAGCGT
1201 CAGACCCCGT AGAAAAGATG AAAGCATCTT CTTGAGATCC TTTTTCCTG CGGTAAATCT
1261 GCTGCTTGCA AACAAAAAAA CCACCGCTAC CAGCGGTGGT TTGTTTGCCG GATCAAGAGC
1321 TACCAACTCT TTTTCCGAAG GTAACCTGGT TCAGCAGAGC GCAGATACCA AATACTGTCC
1381 TTCTAGTGTA GCCGTAGTTA GGCCACCACT TCAAGAACTC TGTAGCACC GCTACATACC
1441 TCGCTCTGCT AATCCTGTTA CCACTGGCTG CTGCCAGTGG CGATAAGTCG TGCTTACCG
1501 GGTGGAAGT AAGACGATAG TTACCGGATA AGGCGCAGCG GTCGGGCTGA ACGGGGGGTT
1561 CGTGACACAC GCCCAGCTTG GAGCGAACGA CCTACACCGA ACTGAGATAC CTACAGCGTG
1621 AGCATTGAGA AAGCGCCACG CTCCCGAAGG GGAGAAAGGC GGACAGGTAT CCGGTAAGCG
1681 GCAGGGTCGG AACAGGAGAG CGCAGGAGGG AGCTTCCAGG GGGAAACGCC TGGTATCTTT
1741 ATAGTCCTGT CGGGTTTCGC CACCTCTGAC TTGAGCGTCG ATTTTGTGA TGCTCGTCAG
1801 GGGGGCGGAG CCTATGGAAG AACCGCAGCA ACGCGGCCTT TTTACGGTTC CTGGCCTTTT
1861 GCTGCGCTTT TGCTCACATG TTCTTTCCTG CGTTATCCCC TGATTCTGTG GATAACCGTA
1921 TTACCGCCTT TGAGTGAGCT GATACCGCTC GCCGCAGCCG AACGACCGAG CGCAGCGAGT
1981 CAGTGAGCGA GGAAGCGGAA GAGCGCCCAA TACGCAAAAC GCCTCTCCCC GCGCGTTGGC
2041 CGATTCAATTA ATGCAGCTGG CACGACAGGT TTCCCGACTG GAAAGCGGGC AGTGAGCGCA
2101 ACGCAATTA TGTGAGTTAG CTCACCTCAT AGGCACCCCA GGCTTTACAC TTTATGCTTC
2161 CGGCTCGTAT GTTGTGTGGA ATGTGAGCGG GATAACAATT TCACACAGGA AACAGCTATG
2221 ACCATGATTA CGCCAAGCTA GTCGACATAA ATCAATATTG GCTATTGGCC ATTGCATACG
2281 TTGTATCTAT ATCATAATAT GTACATTTAT ATTGGCTCAT GTCCAATATG ACCGCCATGT
2341 TGACATTGAT TATTGACTAG TTATTAATAG TAATCAATTA CGGGGTCAAT AGTTTCATAGC
2401 CCATATATGG AGTTCGCGT TACATAAATT ACGGTAAATG GCCCGCCTCG TGACCGCCCA
2461 ACGACCCCGC CCCATTGACG TCAATAATGA CGTATGTTCC CATAGTAACG CCAATAGGGA
2521 CTTTCCATTG ACGTCAATGG GTGGAGTATT TACGGTAAAC TGCCCACTTG GCAGTACATC
2581 AAGTGTATCA TATGCCAAGT CCGGCCCTCT ATTGACGTCA ATGACGGTAA ATGGCCCGCC
2641 TGGCATTATG CCCAGTACAT GACCTTACGG GACTTTCCTA CTTGGCAGTA CATCTACGTA
2701 TTAGTCATCG CTATTACCAT GGTGATGCGG TTTTGGCAGT ACACCAATGG GCGTGGATAG
2761 CGGTTTGACT CACGGGGATT TCCAAGTCTC CACCCCATTTG ACGTCAATGG GAGTTTGTTC
2821 TGGCACCAAA ATCAACGGGA CTTTCCAAAA TGTCGTAATA ACCCCGCCCC GTTGACGCAA
2881 ATGGGCGGTA GCGGTGTACG GTGGGAGGTC TATATAAGCA GAGCTCGTTT AGTGAACCGT
2941 CAGATCGCCT GGAGACGCCA TCCACGCTGT TTTGACCTCC ATAGAAGACA CCGGGACCGA
3001 TCCAGCCTCC GCGGCCGGGA ACGGTGCATT GGAACGCGGA TTCCCGCTGC CAAGAGTGAC
3061 GTAAGTACCG CCTATAGACT CTATAGGCAC ACCCCTTTGG CTCTTATGCA TGCTATACTG
3121 TTTTGGGCTT GGGGCCCTATA CACCCCGCTT CCTTATGCTA TAGGTGATGG TATAGCTTAG
3181 CCTATAGGTG TGGGTTATTG ACCATTATTG ACCACTCCCC TATTGGTGAC GATACTTTCC
3241 ATTACTAATC CATAACATGG CTCTTTGCCA CAACTATCTC TATTGGCTAT ATGCCAATAC
3301 TCTGTCCTTC AGAGACTGAC ACGGACTCTG TATTTTACA GGATGGGGTC CCATTTATTA
3361 TTTACAAATT CACATATACA ACAACGCGGT CCCCCGTGCC CGCAGTTTTT ATTAACATA
3421 GCGTGGGATC TCCACGCGAA TCTCGGTAC GTGTTCCGGA CATGGGCTCT TCTCCGTTAG
3481 CGGCGGAGCT TCCACATCCG AGCCCTGGTC CCATGCCTCC AGCGGCTCAT GGTGCTCGG
3541 CAGCTCCTTG CTCCTAACAG TGGAGGCCAG ACTTAGGCAC AGCACAATGC CCACCACCAC
3601 CAGTGTGCCG CACAAGGCCG TGGCGGTAGG GTATGTGTCT GAAAATGAGC TCGGAGATTG

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FIGURE 2-2

| | | | | | | |
|------|------------|------------|------------|------------|-------------|------------|
| 3661 | GGCTCGCACC | GTGACGCAGA | TGGAAGACTT | AAGGCAGCGG | CAGAAGAAGA | TGCAGGCAGC |
| 3721 | TGAGTTGTTG | TATTCTGATA | AGAGTCAGAG | GTAAGTCCCG | TTGCGGTGCT | GTAAACGGTG |
| 3781 | GAGGGCAGTG | TAGTCTGAGC | AGTACTCGTT | GCTGCCGCGC | GCGCCACCAG | ACATAATAGC |
| 3841 | TGACAGACTA | ACAGACTGTT | CCTTTCCATG | GGTCTTTTCT | GCAGTCACCG | TCCAAGCTTG |
| 3901 | CAATCATGGA | TGCAATGAAG | AGAGGGCTCT | GCTGTGTGCT | GCTGCTGTGT | GGAGCAGTCT |
| 3961 | TCGTTTCGGC | TAGCACACCT | CAAAATATTA | CTGATTTGTG | TGCAGAATAC | CACAACACAC |
| 4021 | AAATATATAC | GCTAAATGAT | AAGATATTTT | CGTATACAGA | ATCTCTAGCT | GGAAAAAGAG |
| 4081 | AGATGGCTAT | CATTACTTTT | AAGAATGGTG | CAATTTTTC | AGTAGAAGTA | CCAGGTAGTC |
| 4141 | AACATATAGA | TTCACAAAAA | AAAGCGATTG | AAAGGATGAA | GGATACCCCTG | AGGATTGCAT |
| 4201 | ATCTTACTGA | AGCTAAAGTC | GAAAAGTTAT | GTGTATGGAA | TAATAAAACG | CCTCATGCCA |
| 4261 | TTGCCGCAAT | TAGTATGGCA | AATTAAGGAT | CCTCGCAATC | CCTAGGAGGA | TTAGGCAAGG |
| 4321 | GCTTGAGCTC | ACGCTCTTGT | GAGGGACAGA | AATACAATCA | GGGGCAGTAT | ATGAATACTC |
| 4381 | CATGGAGAAA | CCCAGATCTA | CGTATGATCA | GCCTCGACTG | TGCCTTCTAG | TTGCCAGCCA |
| 4441 | TCTGTTGTTT | GCCCCCTCCC | CGTGCCTTCC | TTGACCCTGG | AAGGTGCCAC | TCCCCTGTC |
| 4501 | CTTTCTAAT | AAAATGAGGA | AATTGCATCG | CATTGTCTGA | GTAGGTGTCA | TTCTATTCTG |
| 4561 | GGGGGTGGGG | TGGGGCAGGA | CAGCAAGGGG | GAGGATTGGG | AAGACAATAG | CAGGCATGCT |
| 4621 | GGGGATGCGG | TGGGCTCTAT | GGCTTCTGAG | GCGGAAAGAA | CCAGCTGGGG | CTCGACAGCT |
| 4681 | CGACTCTAGA | ATCACTGGC | CGTCGTTTTA | CAACGTCGTG | ACTGGGAAAA | CCCTGGCGTT |
| 4741 | ACCCAACTTA | ATCGCCTTGC | AGCACATCCC | CCTTTCGCCA | GCTGGCGTAA | TAGCGAAGAG |
| 4801 | GCCCGCACC | ATCGCCCTTC | CCAACAGTTG | CGCAGCCTGA | ATGGCGAATG | GCGCCTGATG |
| 4861 | CGGTATTTTC | TCCTTACGCA | TCTGTGCGGT | ATTTACACCC | GCATATGGTG | CACTCTCAGT |
| 4921 | ACAATCTGCT | CTGATGCCGC | ATAGTTAAGC | CAGCCCCGAC | ACCCGCCAAC | ACCCGCTGAC |
| 4981 | GCGCCCTGAC | GGGCTTGTCT | GCTCCCGGCA | TCCGCTTACA | GACAAGCTGT | GACCGTCTCC |
| 5041 | GGGAGCTGCA | TGTGTCAGAG | GTTTTACCG | TCATCACCGA | AACGCGCGA | |

FIGURE 2-3



Molecule: pPJV2006, 5488 bps DNA Circular
 File Name: pPJV2006.cm5,

Description: Ligation of CTA-KDEL PCR Frag cut w/ Nhe Bam into 7054 Nhe Bam Vector

Notes:

Molecule Features:

| Type | Start | End | Name | Description |
|--------|-------|------|--------------|-------------|
| REGION | 2242 | 3060 | CMVpro | |
| REGION | 3061 | 3884 | intronA | |
| GENE | 3906 | 3969 | TPAsigCDS' | |
| GENE | 3975 | 4685 | CTA-KDEL CDS | |
| REGION | 4793 | 5089 | bGHpA | |

Enzymes (15 sites)

| | | | | | | | |
|------|-------|-------|-------|---------|-------|-------|------|
| SalI | 2241, | MscI | 2266, | SpeI | 2356, | SacII | 3009 |
| NsiI | 3106, | PstI | 3879, | HindIII | 3894, | NheI | 3969 |
| ClaI | 4553, | BamHI | 4686, | BglII | 4793, | EcoRI | 5088 |

FIGURE 3-1

Sequence Data

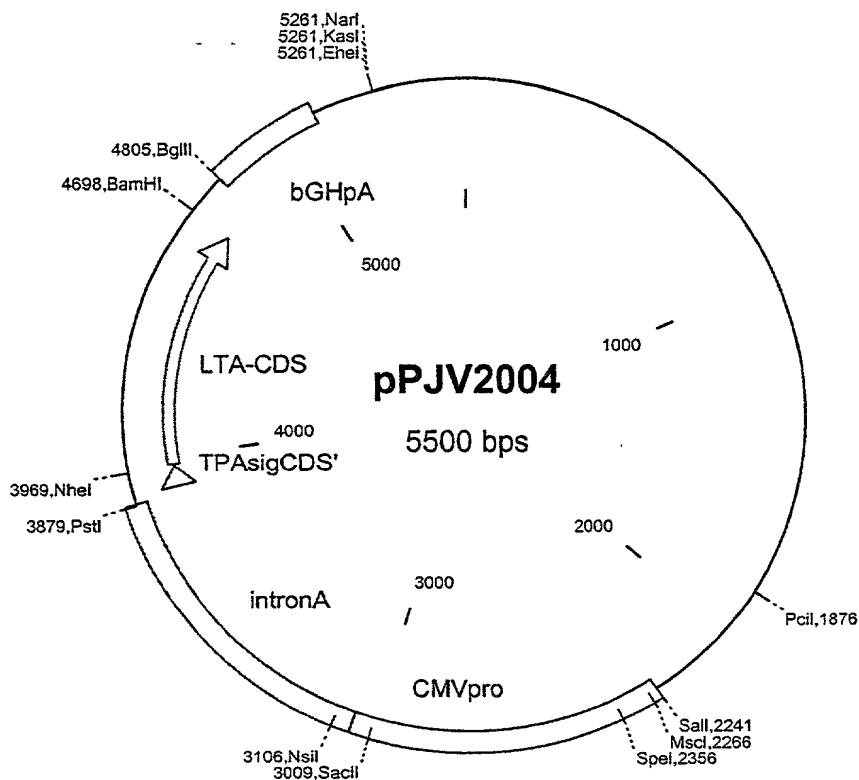
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Bam Vector
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Printed: 1-5488 bps (Full), format Single Strand

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61 CTTAGACGTC AGGTGGCACT TTTCCGGGAA ATGTGCGCGG AACCCCTATT TGTATTATTT
121 TCTAAATACA TTCAAATATG TATCCGCTCA TGAGACAATA ACCCTGATAA ATGCTTCAAT
181 AATATTGAAA AAGGAAGAGT ATGAGTATTC AACATTTCCG TGTCGCCCTT ATTCCCTTTT
241 TTGCGGCATT TTGCCTTCCT GTTTTTGCTC ACCCAGAAAC GCTGGTGAAA GTAAAAGATG
301 CTGAAGATCA GTTGGGTGCA CGAGTGGGTT ACATCGAACT GGATCTCAAC AGCGGTAAGA
361 TCCTTGAGAG TTTTCGCCCC GAAGAAGCTT TTCCAATGAT GAGCACTTTT AAAGTTCTGC
421 TATGTGGCGC GGTATTATCC CGTATTGACG CCGGGCAAGA GCAACTCGGT CGCCGCATAC
481 ACTATTCTCA GAATGACTTG GTTGAGTACT CACCAGTCAC AGAAAAGCAT CTTACGGATG
541 GCATGACAGT AAGAGAATTA TGCAGTGTG CCATAACCAT GAGTGATAAC ACTGCGGCCA
601 ACTTACTTCT GACAACGATC GGAGAGCTAC AGGAGCTAAC CGCTTTTGTG CACAACATGG
661 GGGATCATGT AACTCGCCTT GATCGTTGGG AACCAGGAGT GAATGAAGCC ATACCAAACG
721 ACGAGCGTGA CACCACGATG CCTGTAGCAA TGGCAACAAC GTTGCGCAAA CTATTAACGT
781 GCGAACTACT TACTCTAGCT TCCCAGCAAC AATTAATAGA CTGGATGGAG GCGGATAAAG
841 TTGCAGGACC TTTTCCGAAG TCCGCCCTTC CGGCTGGCTG GTTTATTGCT GATAAATCTG
901 GAGCCGGTGA GCGTGGGTCT CGCGGTATCA TTGCAGCACT GGGGCCAGAT GGTAAGCCCT
961 CCCGTATCGT AGTTATCTAC ACGACGGGGA GTCAAGCAAC TATGGATGAA CGAAATAGAC
1021 AGATCGCTGA GATAGGTGCC TCACTGATTA AGCATTGGTA ACTGTCAGAC CAAGTTTACT
1081 CATATATGAT TTAGATTGAT TTAAACTTTC ATTTTAAATT TAAAAGGATC TAGGTGAAGA
1141 TCCTTTTTGA TAATCTCATG ACCAAAATCC CTTAACGTGA GTTTTCGTTT CACTGAGCGT
1201 CAGACCCCGT AGAAAAGATC AAAGGATCTT CTTGAGATCC TTTTTTCTG CGCGTAATCT
1261 GCTGCTTGCA AACAAAAAAA CCACCCTAC CAGCGGTGGT TTGTTTGCCG GATCAAGAGC
1321 TACCAACTCT TTTTCCGAAG GTAACTGGCT TCAGCAGAGC GCAGATACCA AATACTGTCC
1381 TTCTAGTGTA GCCGTAGTTA GGCCACCACT TCAAGAACTC TGTAGCACC GCTACATACC
1441 TCGCTCTGCT AATCCTGTTA CCAGTGGCTG CTGCCAGTGG CGATAAGTCG TGTCTTACCG
1501 GGTGGAGCTC AAGACGATAG TTACCGGATA AGGCGCAGCG GTCGGGCTGA ACGGGGGGTT
1561 CGTGACACAC GCCCAGCTTG GAGCGAACGA CCTACACCGA ACTGAGATAC CTACAGCGTG
1621 AGCATTGAGA AAGCGCCACG CTTCCCGAAG GGAGAAAGGC GGACAGGTAT CCGGTAAGCG
1681 GCAGGGTCGG AACAGGAGAG CGCAGGAGGG AGCTTCCAGG GGGAAACGCC TGGTATCTTT
1741 ATAGTCCTGT CGGGTTTCGC CACCTCTGAC TTGAGCGTCG ATTTTGTGA TGCTCGTCAG
1801 GGGGGCGGAG CTTTGGGAAA AACGCCAGCA ACGCGGCCTT TTTACGGTTC CTGGCCTTTT
1861 GCTGGCCTTT TGCTCACATG TTCTTTCCTG CGTTATCCCC TGATTCTGTG GATAACCGTA
1921 TTACCGCCTT TGAGTGAGCT GATACCGCTC GCCCGACCCG AACGACCGAG CGCAGCGAGT
1981 CAGTGAGCGA GGAAGCGGAA GAGCGCCCAA TACGCAAAAC GCCTCTCCCC GCGGCTGGC
2041 CGATTCTATTA ATGCAGCTGG CACCAAGTCTG TTCCCGACTG GAAAGCGGGC AGTGAGCGCA
2101 ACGCAATTAA TGTGAGTTAG CTCACTCATT AGGCACCCCA GGCTTTACAC TTTATGCTTC
2161 CGGCTCGTAT GTTGTGTGGA ATTGTGAGCG GATAACAATT TCACACAGGA AACAGCTATG
2221 ACCATGATTA GCCTAAGCTA GTCGACATTA ATCAATATTG GCTATTGGCC ATTGCATACG
2281 TTGTATCTAT ATGCAATATG GTACATTTAT ATTGGCTCAT GTCCAATATG ACCGCCATGT
2341 TGACATTGAT TATTGACTAG TTATTAATAG TAATCAATTA CGGGGTCATT AGTTCATAGC
2401 CCATATATGG AGTTCCGCGT TACATAACTT ACGGTAAATG GCCCGCCTCG TGACCGCCCA
2461 ACGACCCCGG CCCATTGACG TCAATAATGA CGTATGTTCC CATAGTAACG CCAATAGGGA
2521 CTTTCCATTG ACGTCAATGG GTGGAGTATT TACGGTAAAC TGCCCCATTG GCAGTACATC
2581 AAGTGTATCA TATGCCAAGT CCGGCCCCCT ATTGACGTCA ATGACGGTAA ATGGCCCGCC
2641 TGGCATTATG CCCAGTACAT GACCTTACCG GACTTTCCTA CTGGCAGTA CATCTACGTA
2701 TTAGTCATCG CTATTACCAT GGTGATGCGG TTTTGGCAGT ACACCAATGG GCGTGGATAG
2761 CGTTTGGACT CACGGGGATT TCCAAGTCTC CACCCCATG ACGTCAATGG GAGTTTGTCT
2821 TGGCACCAAA ATCAACGGGA CTTTCCAAAA TGTCGTAATA ACCCCGCCCC GTTGACGCAA
2881 ATGGGCGGTA GCGGTGTACG GTGGGAGGTC TATATAAGCA GAGCTCGTTT AGTGAACCGT
2941 CAGATCGCCT GGAGACGCCA TCCACGCTGT TTTGACCTCC ATAGAAGACA CCGGGACCGA
3001 TCCAGCCTCC GCGGCCGGGA ACGGTGCATT GGAACGCGGA TTCCCGGTGC CAAGAGTGAC
3061 GTAAGTACCG CCTATAGACT CTATAGGCAC ACCCCTTTGG CTCTTATGCA TGCTATACTG
3121 TTTTGGGCTT GGGGCCCTATA CACCCCGCT CTTATGCTA TAGGTGATGG TATAGCTTAG
3181 CCTATAGGTG TGGGTTATTG ACCATTATG ACCACTCCCC TATTGGTGAC GATACTTTCC
3241 ATTACTAATC CATAACATGG CTCTTTGCCA CAACTATCTC TATTGGCTAT ATGCCAATAC
3301 TCTGTCTTTC AGAGACTGAC ACGGACTCTG TATTTTACA GGATGGGGTC CCATTTATTA
3361 TTTACAAATT CACATATACA ACAACGCCGT CCCCCGTGCC CGCAGTTTTT ATTAAACATA
3421 GCGTGGGATC TCCACGCGAA TCTCGGGTAC GTGTTCCGGA CATGGGCTCT TCTCCGGTAG
3481 CCGCGGAGCT TCCACATCCG AGCCCTGGT CCATGCCTCC AGCGGCTCAT GGTGCTCGG
3541 CAGCTCCTTG CTCCTAACAG TGGAGGCCAG ACTTAGGCAC AGCACATGC CCACCACCAC
3601 CAGTGTGCCG CACAAGGCCG TGGCGGTAGG GTATGTGTCT GAAAATGAGC TCGGAGATTG

FIGURE 3-2

3661 GGCTCGCACC GTGACGCAGA TGGAAGACTT AAGGCAGCGG CAGAAGCAGA TGCAGGCAGC
3721 TGAGTTGTTG TATTCTGATA AGAGTCAGAG GTAACCTCCG TTGCGGTGCT GTTAACGGTG
3781 GAGGGCAGTG TAGTCTGAGC AGTACTCGTT GCTGCCGCGC GCGCCACCAG ACATAATAGC
3841 TGACAGACTA ACAGACTGTT CCTTTCCATG GGTCTTTTCT GCAGTCACCG TCCAAGCTTG
3901 CAATCATGGA TGCAATGAAG AGAGGGCTCT GCTGTGTGCT GCTGCTGTGT GGAGCAGTCT
3961 TCGTTTTCGGC TAGCAATGAT GATAAGTTAT ATCGGGCAGA TTCTAGACCT CCTGATGAAA
4021 TAAAGCAGTC AGGTGGTCTT ATGCCAAGAG GACAGAGTGA GTACTTTGAC CGAGGTACTC
4081 AAATGAATAT CAACCTTTAT GATCATGCAA GAGGAAGTCA GACGGGATTT GTTAGGCACG
4141 ATGATGGATA TGTTTCCACC TCAATTAGTT TGAGAAGTGC CCACTTAGTG GGTCAAACCTA
4201 TATTGTCTGG TCATTCTACT TATTATATAT ATGTTATAGC CACTGCACCC AACATGTTTA
4261 ACGTTAATGA TGTATTAGGG GCATACAGTC CTCATCCAGA TGAACAAGAA GTTTCTGCTT
4321 TAGGTGGGAT TCCATACTCC CAAATATATG GATGGTATCG AGTTCATTTT GGGGTGCTTG
4381 ATGAACAATT ACATCGTAAT AGGGGCTACA GAGATAGATA TTACAGTAAC TTAGATATTG
4441 CTCCAGCAGC AGATGGTTAT GGATTGGCAG GTTCCCTCC GGAGCATAGA GCTTGGAGGG
4501 AAGAGCCGTG GATTCATCAT GCACCGCCGG GTTGTGGGAA TGCTCCAAGA TCATCGATGA
4561 GTAATACTTG CGATGAAAAA ACCCAAAGTC TAGGTGTAAA ATTCTTGAC GAATACCAAT
4621 CTAAAGTTAA AAGACAAATA TTTTCAGGCT ATCAATCTGA TATTGATACA CATAATAGAA
4681 TTTGAGGATC CTCGCAATCC CTAGGAGGAT TAGGCAAGGG CTTGAGCTCA CGCTCTTG TG
4741 AGGGACAGAA ATACAATCAG GGGCAGTATA TGAATACTCC ATGGAGAAAC CCAGATCTAC
4801 GTATGATCAG CCTCGACTGT GCCTTCTAGT TGCCAGCCAT CTGTTGTTTG CCCCTCCCCC
4861 GTGCCTTCCT TGACCTCGGA AGGTGCCACT CCCACTGTCC TTTCCCTAATA AAATGAGGAA
4921 ATTGCATCGC ATTGTCTGAG TAGGTGTCTAT TCTATTCTGG GGGGTGGGGT GGGGCAGGAC
4981 AGCAAGGGGG AGGATTGGGA AGACAATAGC AGGCATGCTG GGGATGCGGT GGGCTCTATG
5041 GCTTCTGAGG CGGAAAGAAC CAGCTGGGGC TCGACAGCTC GACTCTAGAA TTCACTGGCC
5101 GTCGTTTTTAC AACGTCGTGA CTGGGAAAAC CCTGGCGTTA CCCAACTTAA TCGCCTTGCA
5161 GCACATCCCC CTTTCGCCAG CTGGCGTAAT AGCGAAGAGG CCCGCACCGA TCGCCCTTCC
5221 CAACAGTTGC GCAGCCTGAA TGGCGAATGG CGCCTGATGC GGTATTTTCT CCTTACGCAT
5281 CTGTGCGGTA TTTACACCG CATATGGTGC ACTCTCAGTA CAATCTGCTC TGATGCCGCA
5341 TAGTTAAGCC AGCCCCGACA CCCGCCAACA CCCGCTGACG CGCCCTGACG GGCTTGTCTG
5401 CTCCCGGCAT CCGCTTACAG ACAAGCTGTG ACCGTCTCCG GGAGCTGCAT GTGTCAGAGG
5461 TTTTCACCGT CATCACCGAA ACGCGCGA

FIGURE 3-3



Molecule: pPJV2004, 5500 bps DNA Circular
 File Name: pPJV2004.cm5,
 Description: Ligation of LTA Nhe-Bam Insert into 7054 Nhe Bam Vector
 Notes:

Molecule Features:

| Type | Start | End | Name | Description |
|--------|-------|------|------------|-------------|
| REGION | 2242 | 3060 | CMVpro | |
| REGION | 3061 | 3884 | intronA | |
| GENE | 3906 | 3969 | TPAsigCDS' | |
| GENE | 3975 | 4697 | LTA-CDS | |
| REGION | 4805 | 5101 | bGHpA | |

Enzymes (13 sites)

| | | | | | | | |
|-------|-------|-------|-------|------|-------|------|------|
| PciI | 1876, | Sall | 2241, | MscI | 2266, | SpeI | 2356 |
| SacII | 3009, | NsiI | 3106, | PstI | 3879, | NheI | 3969 |
| BamHI | 4698, | BglII | 4805, | EheI | 5261, | Kasi | 5261 |

FIGURE 4-1

Sequence Data

Molecule: pPJV2004, 5500 bps DNA Circular
 Description: Ligation of LTA Nhe-Bam Insert into 7054 Nhe Bam Vector
 File Name: pPJV2004.cm5,
 Printed: 1-5500 bps (Full), format Single Strand

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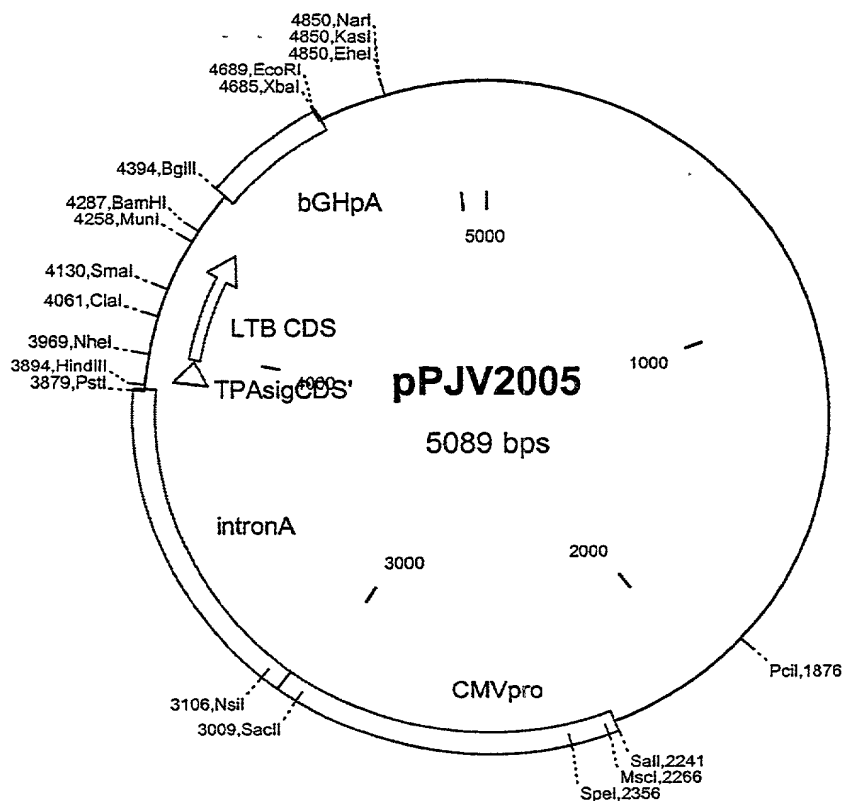
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61  CTTAGACGTC AGGTGGCACT TTTCGGGGAA ATGTGCGCGG AACCCCTATT TGTTTTATTT
121 TCTAAATACA TTCAAATATG TATCCGCTCA TGAGACAATA ACCCTGATAA ATGCTTCAAT
181 AATATTGAAA AAGGAAGAGT ATGAGTATTC AACATTTCCG TGTCGCCCTT ATTCCTTTT
241 TTGCGGCATT TTGCCTTCCT GTTTTTGCTC ACCCAGAAAC GCTGGTGAAA GTAAAAGATG
301 CTGAAGATCA GTTGGGTGCA CGAGTGGGTT ACATCGAACT GGATCTCAAC AGCGGTAAAG
361 TCCTTGAGAG TTTTCGCCCC GAAGAACGTT TTCCAATGAT GAGCACTTTT AAAGTCTCTG
421 TATGTGGCGC GGTATTATCC CGTATTGACG CCGGGCAAGA GCAACTCGGT CGCCGCATAC
481 ACTATTCTCA GAATGACTTG GTTGAGTACT CACCAGTCAC AGAAAAGCAT CTTACGGATG
541 GCATGACAGT AAGAGAATTA TGCAGTGCTG CCATAACCAT GAGTGATAAC ACTGCGGCCA
601 ACTTACTTCT GACAACGATC GGAGGACCGA AGGAGCTAAC CGCTTTTGTG CACAACATGG
661 GGGATCATGT AACTCGCCTT GATCGTTGGG AACCGGAGCT GAATGAAGCC ATACCAAACG
721 ACGAGCTGTA CACACGATG CCTGTAGTAA TGGCAACAAC GTTGCAGCAA CTATTACGAT
781 GCGAACTACT TACTCTAGCT TCCCGGCAAC AATTAATAGA CTGGATGGAG GCGGATAAAG
841 TTGCAGGACC ACTTCTGCGC TCGGCCCTTC CGGCTGGCTG GTTTATTGCT GATAAATCTG
901 GAGCCGGTGA GCGTGGGTCT CGCGGTATCA TTGCAGCACT GGGGCCAGAT GGTAAAGCCCT
961 CCCGTATCGT AGTTATCTAC ACCAGCGGGA GTCAGGCAAC TATGGATGAA CGAAATAGAC
1021 AGATCGTCTA AATAGGTGCC TCACTGATTA AGCATTGGTA ACTGTCAGAC CAAGTTTACT
1081 CATATATACT TTAGATTGAT TTAAAACTTC ATTTTAAATT TAAAAGGATC TAGGTGAAGA
1141 TCCTTTTTTGA TAATCTCATG ACCAAAATCC CTTAACGTGA GTTTTCGTTC CACTGAGCGT
1201 CAGACCCCGT AGAAAAGATC AAAGGATCTT CTTGAGATCC TTTTTCCTG CGCGTAATCT
1261 GCTGCTTGCA AACAAAAAAA CCACCGCTAC CAGCGGTGGT TTGTTTGCCG GATCAAGAGC
1321 TACCAACTCT TTTTCCGAAG GTAACCTGGT TCAGCAGAGC GCAGATACCA AATACTGTCC
1381 TTCTAGTGTA GCCGTAGTTA GGCCACCACT TCAAGAACTC TGTAGCACC GCTACATACC
1441 TCGCTCTGCT AATCCTGTTA CCAGTGGCTG CTGCCAGTGG CGATAAGTCG TGTCTTACCG
1501 GGTTGGACTC AAGACGATG TTACCGGATA AGGCGCAGCG GTCGGGCTGA ACGGGGGGTT
1561 CGTGACACAC GCCCAGCTTG GAGCGAACGA CCTACACCGA ACTGAGATAC CTACAGCGTG
1621 AGCATTGAGA AAGCGCCACG CTTCCCGAAG GGAGAAAGGC GGACAGGTAT CCGGTAAGCG
1681 GCAGGGTCGG AACAGGAGAG CGCAGGAGGG AGCTTCCAGG GGGAAACGCC TGGTATCTTT
1741 ATAGTCTGTG CCGGTTTCGC CACCTTGAC TTAGCGCTCG ATTTTGTGA TGCTCGTCAG
1801 GGGGGCGGAG CCTATGGAAG AACGCCAGCA ACGCGGCCCT TTTACGGTTC CTGGCCTTTT
1861 GCTGGCCTTT TGCTCACATG TTCTTTCCTG CGTTATCCCC TGATTCTGTG GATAACCGTA
1921 TTACCGCCTT TTAGTGAGCT GTACTCGCTC GCCGCAGCGG AACGACCGAG CGCAGCGAGT
1981 CAGTGAGCGA GGAAGCGGAA GAGCGCCCAA TACGCAAACC GCCTCTCCCC GCGCGTTGGC
2041 CGATTCATTA ATGCAGCTGG CACGACAGGT TTCCCGACTG GAAAGCGGGC AGTGAGCGCA
2101 ACGCAATTAA TGTGAGTTAG CTCACTCATT AGGCACCCCA GGCTTTACAC TTTATGCTTC
2161 CGGTCGTAT GTTGTGTGGA ATTGTGAGCG GATAACAATT TCACACAGGA AACAGCTATG
2221 ACCATGATTA CGCCAAGCTA GTGCACATAA ATCAATATTG GCTATTGGCC ATTGCATACG
2281 TTGTATCTAT ATCATAATAT GTACATTTAT ATTGGCTCAT GTCCAATATG ACCGCCATGT
2341 TGACATTGAT TATTGACTAG TTATTAATAG TAATCAATTA CGGGGTCATT AGTTCATAGC
2401 CCATATAGTG AGTTCGCGT TACATAACCT ACGGTAAATG GCCCGCCTCG TGACGCCCA
2461 ACGACCCCGG CCCATTGACG TCAATAATGA CGTATGTTCC CATAGTAACG CCAATAGGGA
2521 CTTTCCATTG ACGTCAATGG GTGGAGTATT TACGGTAAAC TGCCCACTTG GCAGTACATC
2581 AAGTGATATC TATGCCAAGT CCGGCCCTCT ATTGACGTCA ATGACGGTAA ATGGCCCGCC
2641 TGGCATTATG CCCAGTACAT GACCTTACGG GACTTTCCTA CTTGGCAGTA CATCTACGTA
2701 TTAGTCATCG CTATTACCAT GGTGATGCGG TTTTGGCAGT ACACCAATGG GCGTGGATAG
2761 CGGTTTGACT CACGGGGATT TCCAAGTCTC CACCCCATTG ACGTCAATGG GAGTTTGTGT
2821 TGGCACCAAA ATCAACGGGA CTTTCCAAAA TGTCGTAATA ACCCCGCCCC GTTGACGCAA
2881 ATGGGCGGTA GCGGTGTACG GTGGGAGGTC TATATAAGCA GAGCTCGTTT AGTGAACCGT
2941 CAGATCGCCT GGAGACGCCA TCCACGCTGT TTTGACCTCC ATAGAAGACA CCGGGACCGA
3001 TCCAGCCTCC GCGGCCGGGA ACGGTGCATT GGAACGCGGA TTCCCGGTGC CAAGAGTGAC
3061 GTAAGTACCG CCTATAGACT CTATAGGCAC ACCCCTTTGG CTCTTATGCA TGCTATACTG
3121 TTTTGGCTT GGGGCCTATA CACCCCGCTC CTTATGCTA TAGGTGATGG TATAGCTTAG
3181 CCTATAGGTG TGGGTTATTG ACCATTATTG ACCACTCCCC TATTGGTGAC GATACTTTCC
3241 ATTACTAATC CATAACATGG CTCTTTGCCA CAACTATCTC TATTGGCTAT ATGCCAATAC
3301 TCTGTCTCTC AGAGACTGAC ACGGACTCTG TATTTTTACA GGATGGGGTC CCATTATTAT
3361 TTTACAAATT CACATATACA ACAAGCCCGT CCCCCGTGCC CGCAGTTTTT ATTAACATA
3421 GCGTGGGATC TCCACGCGAA TCTCGGGTAC GTGTTCCGGA CATGGGCTCT TCTCCGCTAG
3481 CCGCGGAGCT TCCACATCCG AGCCCTGGTC CCATGCCTCC AGCGGCTCAT GGTGCTCGG
3541 CAGCTCCTTG CTCTAACAG TGGAGGCCAG ACTTAGGCAC AGCACAATGC CCACCACCAC
3601 CAGTGTGCCG CACAAGGCCG TGGCGGTAGG GTATGTGTCT GAAAATGAGC TCGGAGATTG

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FIGURE 4-2

3661 GGCTCGCACC GTGACGCAGA TGGAAGACTT AAGGCAGCGG CAGAAGAAGA TGCAGGCAGC
3721 TGAGTTGTTG TATTCTGATA AGAGTCAGAG GTAAC TCCC GTGCGGTGCT GTTAACGGTG
3781 GAGGGCAGTG TAGTCTGAGC AGTACTCGTT GCTGCCGCGC GCGCCACCAG ACATAATAGC
3841 TGACAGACTA ACAGACTGTT CCTTTCCATG GGTCTTTTCT GCAGTCACCG TCCAAGCTTG
3901 CAATCATGGA TGCAATGAAG AGAGGGCTCT GCTGTGTGCT GCTGCTGTGT GGAGCAGTCT
3961 TCGTTTCGGC TAGCAATGGC GACAAATTAT ACCGTGCTGA CTCTAGACCC CCAGATGAAA
4021 TAAAACGTTT CGGAGGTCTT ATGCCCAGAG GGCATAATGA GTACTTCGAT AGAGGAACTC
4081 AAATGAATAT TAATCTTTAT GATCACGCGA GAGGAACACA AACC GGCTTT GTCCAGATATG
4141 ATGACGGATA TGTTTTCCACT TCTCTTAGTT TGAGAAGTGC TCACTTAGCA GGACAGTCTA
4201 TATTATCAGG ATATTCCACT TACTATATAT ATGTTATAGC GACAGCACCA AATATGTTTA
4261 ATGTTAATGA TGTATTAGGC GTATACAGCC CTCACCCATA TGAACAGGAG GTTTCTGCGT
4321 TAGGTGGAAT ACCATATTCT CAGATATATG GATGGTATCG TGTAAATTTT GGTGTGATTG
4381 ATGAACGATT ACATCGTAAC AGGGAATATA GAGACCGGTA TTACAGAAAT CTGAATATAG
4441 CTCCGGCAGA GGATGGTTAC AGATTAGCAG GTTTCCACC GGATCACCAA GCTTGGGAGG
4501 AAGAACCCTG GATTTCATCAT GCACCACAAG GTTGTGGAAA TTCATCAAGA ACAATTACAG
4561 GTGATACTTG TAATGAGGAG ACCCAGATC TGAGCACAAT ATATCTCAGG AAATATCAAT
4621 CAAAAGTTAA GAGGCAGATA TTTTCAGACT ATCAGTCAGA GGTTCACATA TATAACAGAA
4681 TTCGGGATGA ATTATGAGGA TCCTCGCAAT CCCTAGGAGG ATTAGGCAAG GGCTTGAGCT
4741 CACGCTCTTG TGAGGGACAG AAATACAATC AGGGGCAGTA TATGAATACT CCATGGAGAA
4801 ACCCAGATCT ACGTATGATC AGCCTCGACT GTGCCTTCTA GTTGCCAGCC ATCTGTTGTT
4861 TGCCCCCTCCC CCGTGCCTTC CTTGACCCCTG GAAGGTGCCA CTCCCACTGT CCTTTCCTAA
4921 TAAAATGAGG AAATTGCATC GCATTGTCTG AGTAGGTGTC ATTCTATTCT GGGGGGTGGG
4981 GTGGGGCAGG ACAGCAAGGG GGAGGATTGG GAAGACAATA GCAGGCATGC TGGGGATGCG
5041 GTGGGCTCTA TGGCTTCTGA GCGGAAAGA ACCAGCTGGG GCTCGACAGC TCGACTCTAG
5101 AATTCACCTG CCGTCGTTTT ACAACGTCGT GACTGGGAAA ACCCTGGCGT TACCCAACCT
5161 AATCGCCTTG CAGCACATCC CCCTTTCGCC AGCTGGCGTA ATAGCGAAGA GGCCCGCACC
5221 GATCGCCCTT CCCAACAGTT GCGCAGCCTG AATGGCGAAT GGCGCCTGAT GCGGTATTTT
5281 CTCCTTACGC ATCTGTGCGG TATTTACAC CGCATATGGT GCACTCTCAG TACAATCTGC
5341 TCTGATGCCG CATAGTTAAG CCAGCCCCGA CACCCGCCAA CACCCGCTGA CGCGCCCTGA
5401 CGGGCTTGTC TGCTCCCGGC ATCCGCTTAC AGACAAGCTG TGACCGTCTC CGGGAGCTGC
5461 ATGTGTCAGA GGTTTTACC GTCATACCG AAACGCGCGA

FIGURE 4-3



Molecule: pPJV2005, 5089 bps DNA Circular
 File Name: pPJV2005.cm5,

Description: Ligation of LTB NheBam Frag into 7054 Nhe Bam Vector

Notes:

Molecule Features:

| Type | Start | End | Name | Description |
|--------|-------|------|------------|-------------|
| REGION | 2242 | 3060 | CMVpro | |
| REGION | 3061 | 3884 | intronA | |
| GENE | 3906 | 3969 | TPAsigCDS' | |
| GENE | 3975 | 4286 | LTB CDS | |
| REGION | 4394 | 4690 | bGHpA | |

Enzymes (19 sites)

| | | | | | | | |
|-------|-------|------|-------|------|-------|---------|------|
| PciI | 1876, | SalI | 2241, | MscI | 2266, | SpeI | 2356 |
| SacII | 3009, | NsiI | 3106, | PstI | 3879, | HindIII | 3894 |
| NheI | 3969, | ClaI | 4061, | SmaI | 4130, | MunI | 4258 |

FIGURE 5-1

Sequence Data

Molecule: pPJV2005, 5089 bps DNA Circular
 Description: Ligation of LTB NheBam Frag into 7054 Nhe Bam Vector
 File Name: pPJV2005.cm5,
 Printed: 1-5089 bps (Full), format Single Strand

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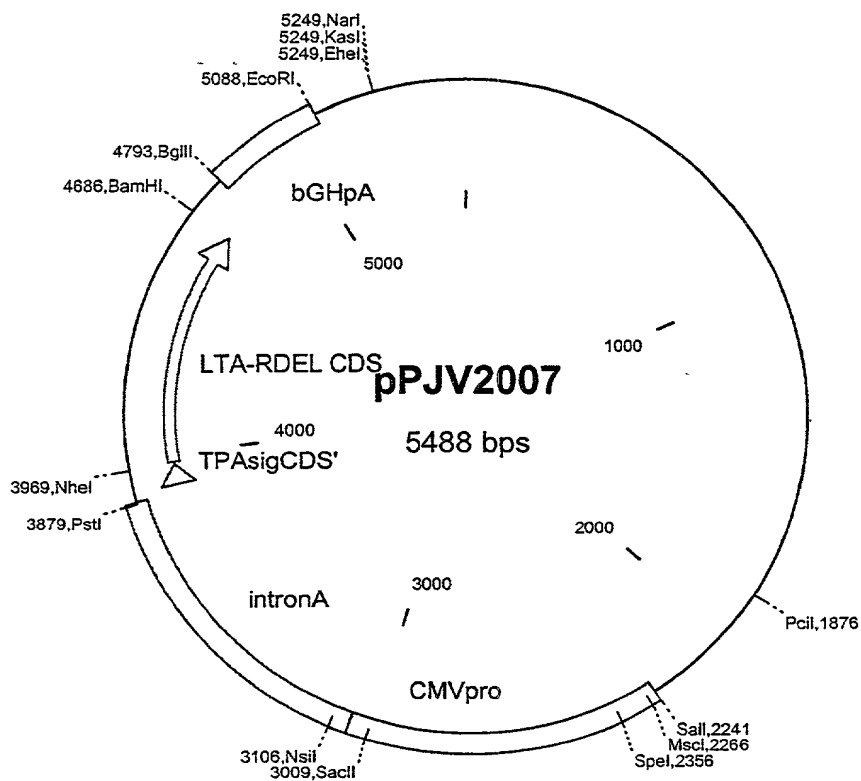
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121 TCTAAATACA TTCAAATATG TATCCGCTCA TGAGACAATA ACCCTGATAA ATGCTTCAAT
181 AATATTGAAA AAGGAAGAGT ATGAGTATTC AACATTTCGG TGTCGCCCTT ATTCCCTTTT
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301 CTGAAGATCA GTTGGGTGCA CGAGTGGGTT ACATCGAACT GGATCTCAAC AGCGGTAAGA
361 TCCTTGAGAG TTTTCGCCCC GAAGAACGTT TTCCAATGAT GAGCACTTTT AAAGTCTGTC
421 TATGTGGCGC GGTATTATCC CGTATTGACG CCGGGCAAGA GCAACTCGGT CGCCGCATAC
481 ACTATTCTCA GAATGACTTG GTTGAGTACT CACCAGTCAC AGAAAAGCAT CTTACGGATG
541 GCATGACAGT AAGAGAATTA TGCAGTGCTG CCATAACCAT GAGTGATAAC ACTGCGGCCA
601 ACTTACTTCT GACAACGATC GGAGGACCGA AGGAGCTAAC CGCTTTTTTT CACAACATGG
661 GGGATCATGT AACTCGCCTT GATCGTTGGG AACCGGAGCT GAATGAAGCC ATACCAAACG
721 ACCAGCGTGA CACCAGCATG CCTGTAGCAA TGGCAACAAC GTTGCGCAAA CTATTAACGT
781 CGGAAGTACT TACTCTAGCT TCCCGGCAAC AATTAATAGA CTGGATGGAG GCGGATAAAG
841 TTGCAGGACC ACTTCTGCGC TCGGCCCTTC CGGCTGGCTG GTTTATTGCT GATAAATCTG
901 GAGCCGGTGA GCGTGGGTCT CGCGGTATCA TTGCAGCAT TGGGCCAGAT GGTAAAGCCCT
961 CCCGTATCGT AGTTATCTAC ACCAGCGGGA GTCAGGCAAC TATGGATGAA CGAAATAGAC
1021 AGATCGCTGA GATAGGTGCC TCACTGATTA AGCATTGGTA ACTGTCAGAC CAAGTTTACT
1081 CATATATACT TTAGATTGAT TTAAAACTTC ATTTTAAATT TAAAAGGATC TAGGTGAAGA
1141 TCCTTTTTGA TAATCTCATG ACCAAAATCC CTTAACGTGA GTTTTCGTTT CACTGAGCGT
1201 CAGAGCCGCT AGAAAAGATC AAGAAATCTT CTTGAGATCC TTTTTTCTG CGCGTAATCT
1261 GCTGCTTGCA AACAAAAAAA CCACCGCTAC CAGCGGTGGT TTGTTTGCCG GATCAAGAGC
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1381 TTCTAGTGTA GCCGTAGTTA GGCCACCACT TCAAGAACTC TGTAGCACC GCTACATACC
1441 TCGCTCTGCT AATCCTGTTA CCAGTGGCTG CTGCCAGTGG CGATAAGTCG TGTCTTACCG
1501 GGTGGAAGTC AAGACGATAG TTACCGGATA AGGCGCAGCG GTCGGGCTGA ACGGGGGGTT
1561 CGTGACACAC GCCCAGCTTG GAGCGAACGA CCTACACCGA ACTGAGATAC CTACAGCGTG
1621 AGCATTGAGA AAGCGCCACG CTTCCCGAAG GGAGAAAGGC GGACAGGTAT CCGGTAAAGC
1681 GCAGGGTCGG AACAGGAGAG CGCAGGAGGG AGCTTCCAGG GGGAAACGCC TGTATCTTTT
1741 ATAGTCCTGT CGGGTTTCGC CACCTCTGAC TTGAGCGTCG ATTTTGTGA TGCTCGTCAG
1801 GGGGGCGGAG CCTATGGAAG AACGCCAGCA ACGCGGCCCT TTTACGGTTC CTGGCCTTTT
1861 GCTGGCCTTT TGCTCACATG TTCTTTCCTG CGTTATCCCC TGATTCTGTG GATAACCGTA
1921 TTACCGCCTT TTAGTGAGCT AGTATCCGTC GCCGCAGCCG AACGACCGAG CGACCGGAGT
1981 CAGTGAGCGA GGAAGCGGAA GAGCGCCCAA TACGCAAACC GCCTCTCCCC GCGGTTGGC
2041 CGATTCAATTA ATGCAGCTGG CAGCAGAGGT TTCCCGACTG GAAAGCGGGC AGTGAGCGCA
2101 ACGCAATTA TGTGAGTTAG CTCATCAATT AGGCACCCCA GGCTTTACAC TTTATCTTTC
2161 CGGCTCGTAT GTTGTGTGGA ATTGTGAGCG GATAACAATT TCACACAGGA AACAGCTATG
2221 ACCATGATTA CGCCAAGCTA GTCGACATAA ATCAATATTG GCTATTGGCC ATTGCATACG
2281 TTGTATCTAT ATCATAATAT GTACATTTAT ATTGGCTCAT GTCCAATATG ACCGCCATGT
2341 TGACATTGAT TATTGACTAG TTATTAATAG TAATCAATTA CGGGGTCATT AGTTCATAGC
2401 CCATATATGG AGTTCGCGT TACATAACTT ACGGTAAATG GCCCGCCTCG TGACCGCCCA
2461 ACGACCCCG CCCATTGACG TCAATAATGA CGTATGTTCC CATAGTAACG CCAATAGGGA
2521 CTTTCCATTG ACGTCAATGG GTGGAGTATT TACGGTAAAC TGCCCACTTG GCAGTACATC
2581 AAGTGATATG TATGCCAAGT CCGGCCCTCT ATTGACGTCA ATGACGGTAA ATGGCCCGCC
2641 TGGCATTATG CCGAGTACAT GACCTTACCG GACTTTCCTA CTGGCAGTA CATCTACGTA
2701 TTAGTCATCG CTATTACCAT GGTGATGCGG TTTTGGCAGT ACACCAATGG GCGTGGATAG
2761 CGGTTTGACT CACGGGGATT TCCAAGTCTC CACCCCATTG ACGTCAATGG GAGTTTGTGT
2821 TGGCACCAAA ATCAACGGGA CTTTCCAAAA TGTCGTAATA ACCCGCCCCC GTTGACGCAA
2881 ATGGGCGGTA GCGGTGTACG GTGGGAGGTC TATATAAGCA GAGCTCGTTT AGTGAACCGT
2941 CAGATCGCCT GGAGACGCCA TCCACGCTGT TTTGACCTCC ATAGAAGACA CCGGGACCGA
3001 TCCAGCCTCC GCGGCCGGGA ACGGTGCATT GGAACGCGGA TTCCCCGTGC CAAGAGTGAC
3061 GTAAGTACCG CCTATAGACT CTATAGGCAC ACCCCTTTGG CTCTTATGCA TGCTATACTG
3121 TTTTTGGCTT GGGGCCTATA CACCCCGCT CTTATGCTA TAGGTGATGG TATAGCTTAG
3181 CCTATAGGTG TGGGTTATTG ACCATTATTG ACCACTCCCC TATTGGTGAC GATACTTTCC
3241 ATTACTAATC CATAACATGG CTCTTTGCCA CAACTATCTC TATTGGCTAT ATGCCAATAC
3301 TCTGTCCTTC AGAGACTGAC ACGGACTCTG TATTTTACA GGATGGGGTC CCATTTATTA
3361 TTTACAAATT CACATATACA ACAACGCGGT CCCCCTGCC CGCAGTTTTT ATTAAACATA
3421 GCGTGGGATC TCCACGCGAA TCTCGGGTAC GTGTTCCGGA CATGGGCTCT TCTCCGGTAG
3481 CCGCGGAGCT TCCACATCCG AGCCCTGGTC CCATGCCTCC AGCGGCTCAT GGTCGCTCGG
3541 CAGCTCCTTG CTCTTAACAG TGGAGGCCAG ACTTAGGCAC AGCACAATGC CCACCACCAC
3601 CAGTGTGCCG CACAAGGCCG TGGCGGTAGG GTATGTGTCT GAAAATGAGC TCGGAGATTG

```

FIGURE 5-2

3661 GGCTCGCACC GTGACGCAGA TGGAAGACTT AAGGCAGCGG CAGAAGAAGA TGCAGGCAGC
3721 TGAGTTGTTG TATTCTGATA AGAGTCAGAG GTAACCTCCG TTGCGGTGCT GTTAACGGTG
3781 GAGGGCAGTG TAGTCTGAGC AGTACTCGTT GCTGCCGCGC GCGCCACCAG ACATAATAGC
3841 TGACAGACTA ACAGACTGTT CCTTTCCATG GGTCTTTTCT GCAGTCACCG TCCAAGCTTG
3901 CAATCATGGA TGCAATGAAG AGAGGGCTCT GCTGTGTGCT GCTGCTGTGT GGAGCAGTCT
3961 TCGTTTCGGC TAGCGCTCCC CAGTCTATTA CAGAACTATG TTCGGAATAT CGCAACACAC
4021 AAATATATAC GATAAATGAC AAGATACTAT CATATACGGA ATCGATGGCA GGCAAAAGAG
4081 AAATGGTTAT CATTACATTT AAGAGCGGCG CAACATTTCA GGTCTGAAGTC CCGGGCAGTC
4141 AACATATAGA CTCCCCAAAA AAAGCCATTG AAAGGATGAA GGACACATTA AGAATCACAT
4201 ATCTGACCGA GACCAAAATT GATAAATTAT GTGTATGGAA TAATAAAACC CCCAATTCAA
4261 TTGCGGCAAT CAGTATGGAA AACTAGGGAT CCTCGCAATC CCTAGGAGGA TTAGGCAAGG
4321 GCTTGAGCTC ACGCTCTTGT GAGGGACAGA AATACAATCA GGGGCAGTAT ATGAATACTC
4381 CATGGAGAAA CCCAGATCTA CGTATGATCA GCCTCGACTG TGCCTTCTAG TTGCCAGCCA
4441 TCTGTTGTTT GCCCCCTCCC CGTGCCTTCC TTGACCCTGG AAGGTGCCAC TCCCACTGTC
4501 CTTTCCTAAT AAAATGAGGA AATTGCATCG CATTGTCTGA GTAGGTGTCA TTCTATTCTG
4561 GGGGGTGGGG TGGGGCAGGA CAGCAAGGGG GAGGATTGGG AAGACAATAG CAGGCATGCT
4621 GGGGATGCGG TGGGCTCTAT GGCTTCTGAG GCGGAAAGAA CCAGCTGGGG CTCGACAGCT
4681 CGACTCTAGA ATTCACTGGC CGTCGTTTTA CAACGTCGTG ACTGGGAAAA CCCTGGCGTT
4741 ACCCAACTTA ATCGCCTTGC AGCACATCCC CCTTTCGCCA GCTGGCGTAA TAGCGAAGAG
4801 GCGCGCACCG ATCGCCCTTC CCAACAGTTG CGCAGCCTGA ATGGCGAATG GCGCCTGATG
4861 CGGTATTTTC TCCTTACGCA TCTGTGCGGT ATTTACACC GCATATGGTG CACTCTCAGT
4921 ACAATCTGCT CTGATGCCGC ATAGTTAAGC CAGCCCCGAC ACCCGCCAAC ACCCGCTGAC
4981 GCGCCCTGAC GGGCTTGTCT GCTCCCGGCA TCCGCTTACA GACAAGCTGT GACCGTCTCC
5041 GGGAGCTGCA TGTGTCAGAG GTTTTACCAG TCATCACCGA AACGCGCGA

FIGURE 5-3



Molecule: pPJV2007, 5488 bps DNA Circular
 File Name: pPJV2007.cm5,

Description: Ligation of LTA-RDEL Nhe Bam insert into 7054 Nhe Bam Vector

Notes:

Molecule Features:

| Type | Start | End | Name | Description |
|--------|-------|------|--------------|-------------|
| REGION | 2242 | 3060 | CMVpro | |
| REGION | 3061 | 3884 | intronA | |
| GENE | 3906 | 3969 | TPAsigCDS' | |
| GENE | 3975 | 4685 | LTA-RDEL CDS | |
| REGION | 4793 | 5089 | bGHpA | |

Enzymes (14 sites)

| | | | | | | | |
|-------|-------|-------|-------|-------|-------|------|------|
| PciI | 1876, | SalI | 2241, | MscI | 2266, | SpeI | 2356 |
| SacII | 3009, | NsiI | 3106, | PstI | 3879, | NheI | 3969 |
| BamHI | 4686, | BglII | 4793, | EcoRI | 5088, | EheI | 5249 |

FIGURE 6-1

Sequence Data

Molecule: pPJV2007, 5488 bps DNA Circular
 Description: Ligation of LTA-RDEL Nhe Bam insert into 7054 Nhe Bam Vector
 File Name: pPJV2007.cm5,
 Printed: 1-5488 bps (Full), format Single Strand

```

1   GACGAAAGGG CCTCGTGATA CGCCTATTTT TATAGGTTAA TGTCATGATA ATAATGGTTT
61  CTTAGACGTC AGGTGGCACT TTTCGGGGAA ATGTGCGCGG AACCCTATT TGTATTATTT
121 TCTAAATACA TTCAAATATG TATCCGCTCA TGAGACAATA ACCCTGATAA ATGCTTCAAT
181 AATATTGAAA AAGGAAGAGT ATGAGTATTC AACATTTCCG TGTCGCCCTT ATTCCCTTTT
241 TTGCGGCATT TTGCCTTCCT GTTTTTGCTC ACCCAGAAAC GCTGGTGAAA GTAAAAGATG
301 CTGAAGATCA GTTGGGTGCA CGAGTGGGTT ACATCGAACT GGATCTCAAC AGCGGTAAAG
361 TCCTTGAGAG TTTTCGCCCC GAAGAACGTT TTCCAATGAT GAGCACTTTT AAAGTTCTGC
421 TATGTGGCGC GGTATTATCC CGTATTGACG CCGGGCAAGA GCAACTCGGT CGCCGCATAC
481 ACTATTCTCA GAATGACTTG GTTGAGTACT CACCAGTCAC AGAAAAGCAT CTTACGGATG
541 GCATGACAGT AAGAGAATTA TGCAGTGTCT CCATAACCAT GAGTGATAAC ACTGCGGCCA
601 ACTTACTTCT GACAACGATC GGAGGCCGTA AGGAGCTAAC CGCTTTTGTG CACAACATGG
661 GGGATCATGT AACTCGCCTT GATCGTTGGG AACCAGGAGT GAATGAAGCC ATACCAAACG
721 ACGAGCGTGA CACCACGATG CCTGTAGCAA TGGCAACAAC GTTGCGCAAA CTATTAACGT
781 GCGAAGTACT TACTCTAGCT TCCCGGCAAC AATTAATAGA CTGGATGGAG GCGGATAAAG
841 TTGCGAGGAC ACTTCTGCGC TCGGCTGCTG CGGCTGGCTG GTTTATTGCT GATAAATCTG
901 GAGCCGGTGA GCGTGGGTCT CGCGGTATCA TTGCAGCACT GGGGCCAGAT GGTAAGCCCT
961 CCCGTATCGT AGTTATCTAC ACGACGGGGA GTCAGGCAAC TATGGATGAA CGAAATAGAC
1021 AGATCGCTGA GATAGGTGCC TCACTGATTA AGCATTGGTA ACTGTCAGAC CAAGTTTACT
1081 CATATATACT TTAGATTGAT TTAAGACTTC ATTTTAAATT TAAAGGATC TAGGTGAAGA
1141 TCCTTTTGA TAATCTCATG ACCAAAATCC CTTAACGTGA GTTTTCGTTT CACTGAGCGT
1201 CAGACCCCGT AGAAAAGATC AAAGGATCTT CTTGAGATCC TTTTTTCTG CGCGTAATCT
1261 GCTGCTTGCA AACAAAAAAA CCACCGCTAC CAGCGGTGGT TTGTTTGCCG GATCAAGAGC
1321 TACCAACTCT TTTTCCGAAG GTAATGGCTT TCAGCAGAGC GCAGATACCA AATAGCTTCC
1381 TTCTAGTGTA GCCGTAGTTA GGCCACCACT TCAAGAACTC TGTAGCACCG CCTACATACC
1441 TCGCTCTGCT AATCCTGTTA CCAGTGGCTG CTGCCAGTGG CGATAAGTCG TGTCTTACCG
1501 GGTGGGACTC AAGACGATAG TTACCGGATA AGGCGCAGCG GTCGGGCTGA ACGGGGGGTT
1561 CGTGACACAC GCCCAGCTTG GAGCGCCACG CCTACACCGA ACTGAGATAC CTACAGCGTG
1621 AGCATTTAGA AAGCGCCACG CTTCCCGAAG GGAGAAAGGC GGACAGGTAT CCGGTAAGCG
1681 GCAGGGTCGG AACAGGAGAG CGCACGAGGG AGCTTCCAGG GGGAAACGCC TGGTATCTTT
1741 ATAGTCTCTG CGGGTTTCGC CACCTCTGAC TTGAGCGTCG ATTTTGTGTA TGCTCGTCAG
1801 GGGGGCGGAG CCTATGGAAA AACGCCAGCA ACGCGGCCTT TTTACGGTTC CTGGCCTTTT
1861 GCTGGCCTTT TGCTCACATG TTCTTTCCTG CGTTATCCCC TGATTCTGTG GATAACCGTA
1921 TTACCGCCTT TGAGTGAGCT GATACCGCTC GCCGCAGCCG AACGACCGAG CGCAGCGAGT
1981 CAGTGAGCGA GGAAGCGGAA GAGCGCCCAA TACGCAAACC GCCTCTCCCC GCGCGTTGGC
2041 CGATTCAATTA ATGACGCTGG GTGGAGTATT TCCCGCACTG GAAAGCGGGC AGTGAGCGCA
2101 ACGCAATTAA TGTGAGTTAG CTCACCTCATT AGGCACCCCA GGCTTTACAC TTTATGCTTC
2161 CGGCTCGTAT GTTGTGTGGA ATTGTGAGCG GATAACAATT TCACACAGGA AACAGCTATG
2221 ACCATGATTA CGCCAAGCTA GTGCACATAA ATCAATATTG GCTATTGGCC ATTGCATACG
2281 TTGTATGATT ATCATAATAT GTACATTTAT ATTGGCTCAT GTCCAATATG ACCGCCATGT
2341 TGACATTGAT TATTGACTAG TTATTAATAG TAATCAATTA CGGGGTCATT AGTTCATAGC
2401 CCATATATGG AGTTCCGCGT TACATAACTT ACGGTAAATG GCCCCCTCG TGACCGCCCA
2461 ACGACCCCCG CCCATTGACG TCAATAATGA CGTATGTTCC CATAGTAACG CCAATAGGGA
2521 CTTTCCATTG ACGTCAATGG GTGGAGTATT TACGGTAAAC TGCCCCATTG GCAGTACATC
2581 AAGTGATATCA TATGCCAAGT CCGGCCCCCT ATTGACGTCA ATGACGGTAA ATGGCCCGCC
2641 TGGCATTATG CCCAGTACAT GACCTTACGG GACTTTCCTA CTGGGCAGTA CATCTACGTA
2701 TTAGTCATCG CTATTACCAT GGTGATGCGG TTTTGGCAGT ACACCAATGG GCGTGGATAG
2761 CGGTTTGACT ACAGGGGATT TCCAAGTCTC CACCCCATTTG ACGTCAATGG GAGTTTGTGT
2821 TGGCACCAAA ATCAACGGGA CTTTCCAAAA TGTCGTAATA ACCCCGCCCC GTTGACGCAA
2881 ATGGGCGGTA GGCGTGTACG GTGGGAGGTC TATATAAGCA GAGCTCGTTT AGTGAACCGT
2941 CAGATCGCCT GGAGACGCCA TCCACGCTGT TTTGACCTCC ATAGAAGACA CCGGGACCGA
3001 TCCAGCCTCC GCGGCCGGGA ACGGTGCATT GGAACGCGGA TTCCCGTGTC CAAGAGTGAC
3061 GTAAGTACCG CTCATAGACT CTATAGCAC ACCCCTTTGG CTCTATGCA TGCTATACTG
3121 TTTTGGCTT GGGGCCTATA CACCCCGCT CTTATGCTA TAGGTGATGG TATAGCTTAG
3181 CCTATAGGTG TGGGTTATTG ACCATTATTG ACCACTCCCC TATTGGTGAC GATACTTTCC
3241 ATTACTAATC CATAACATGG CTCTTTGCCA CAACTATCTC TATTGGCTAT ATGCCAATAC
3301 TCTGTCTTTC AGAGACTGAC ACGGACTCTG TATTTTACAA GGATGGGGTC CCATTTATTA
3361 TTTACAAATT CACATATACA ACAACGCCGT CCCCCGTGCC CGCAGTTTTT ATTAAACATA
3421 GCGTGGGATC TCCACGCGAA TCTCGGTGAC GTGTTCCGGA CATGGGCTCT TCTCCGGTAG
3481 CCGCGGAGCT TCCACATCCG AGCCCTGGTC CCATGCCTCC AGCGGCTCAT GGTGCTCGG
3541 CAGCTCCTTG TCTCTAACAG TGGAGGCCAG ACTTAGGCAC AGCAACAATG CCACCAACAC
3601 CAGTGTGCCG CACAAGGCCG TGGCGGTAGG GTATGTGTCT GAAAATGAGC TCGGAGATTG

```

FIGURE 6-2

| | | | | | | |
|------|------------|-------------|------------|-------------|------------|------------|
| 3661 | GGCTCGCACC | GTGACGCAGA | TGGAAGACTT | AAGGCAGCGG | CAGAAGAAGA | TGCAGGCAGC |
| 3721 | TGAGTTGTTG | TATTCTGATA | AGAGTCAGAG | GTAAC TCCCG | TTGCGGTGCT | GTTAACGGTG |
| 3781 | GAGGGCAGTG | TAGTCTGAGC | AGTACTCGTT | GCTGCCGCGC | GCGCCACCAG | ACATAATAGC |
| 3841 | TGACAGACTA | ACAGACTGTT | CCTTTCCATG | GGTCTTTTCT | GCAGTCACCG | TCCAAGCTTG |
| 3901 | CAATCATGGA | TGCAATGAAG | AGAGGGCTCT | GCTGTGTGCT | GCTGCTGTGT | GGAGCAGTCT |
| 3961 | TCGTTTCGGC | TAGCAATGGC | GACAAATTAT | ACCGTGTCTG | CTCTAGACCC | CCAGATGAAA |
| 4021 | TAAAACGTTT | CGGAGGTCTT | ATGCCCAGAT | GGCATAATGA | GTACTTCGAT | AGAGGAACTC |
| 4081 | AAATGAATAT | TAATCTTTAT | GATCACGCGA | GAGGAACACA | AACCGGCTTT | GTCAGATATG |
| 4141 | ATGACGGATA | TGTTTCCACT | TCTCTTAGTT | TGAGAAGTGC | TCACTTAGCA | GGACAGTCTA |
| 4201 | TATTATCAGG | ATATTCCACT | TACTATATAT | ATGTTATAGC | GACAGCACCA | AATATGTTTA |
| 4261 | ATGTTAATGA | TGTATTAGGC | GTATACAGCC | CTCACCCATA | TGAACAGGAG | GTTTCTGCGT |
| 4321 | TAGGTGGAAT | ACCATATTCT | CAGATATATG | GATGGTATCG | TGTTAATTTT | GGTGTGATTG |
| 4381 | ATGAACGATT | ACATCGTAAC | AGGGAATATA | GAGACCGGTA | TTACAGAAAT | CTGAATATAG |
| 4441 | CTCCGGCAGA | GGATGGTTAC | AGATTAGCAG | GTTTCCCACC | GGATCACCAA | GCTTGGAGAG |
| 4501 | AAGAACCCTG | GATTTCATCAT | GCACCACAAG | GTTGTGGAAA | TTCATCAAGA | ACAATTACAG |
| 4561 | GTGATACTTG | TAATGAGGAG | ACCCAGAATC | TGAGCACAAAT | ATATCTCAGG | AAATATCAAT |
| 4621 | CAAAAGTTAA | GAGGCAGATA | TTTTCAGACT | ATCAGTCAGA | GGTTGACATA | TATAACAGAA |
| 4681 | TTTGAGGATC | CTCGCAATCC | CTAGGAGGAT | TAGGCAAGGG | CTTGAGCTCA | CGCTCTTGTG |
| 4741 | AGGGACAGAA | ATACAATCAG | GGGCAGTATA | TGAATACTCC | ATGGAGAAAC | CCAGATCTAC |
| 4801 | GTATGATCAG | CCTCGACTGT | GCCTTCTAGT | TGCCAGCCAT | CTGTTGTTTG | CCCCTCCCCC |
| 4861 | GTGCCTTCCT | TGACCCTGGA | AGGTGCCACT | CCCCTGTCC | TTTCCTAATA | AAATGAGGAA |
| 4921 | ATTGCATCGC | ATTGTCGAG | TAGGTGTCAT | TCTATTCTGG | GGGGTGGGGT | GGGGCAGGAC |
| 4981 | AGCAAGGGGG | AGGATTGGGA | AGACAATAGC | AGGCATGCTG | GGGATGCGGT | GGGCTCTATG |
| 5041 | GCTTCTGAGG | CGGAAAGAAC | CAGCTGGGGC | TCGACAGCTC | GACTCTAGAA | TTCCTGGGCC |
| 5101 | GTCGTTTTAC | AACGTCGTGA | CTGGGAAAAC | CCTGGCGTTA | CCCAACTTAA | TCGCCTTGCA |
| 5161 | GCACATCCCC | CTTTCGCCAG | CTGGCGTAAT | AGCGAAGAGG | CCCGCACCGA | TCGCCCTTCC |
| 5221 | CAACAGTTGC | GCAGCCTGAA | TGGCGAATGG | CGCCTGATGC | GGTATTTTCT | CCTTACGCAT |
| 5281 | CTGTGCGGTA | TTTCACACCG | CATATGGTGC | ACTCTCAGTA | CAATCTGCTC | TGATGCCGCA |
| 5341 | TAGTTAAGCC | AGCCCCGACA | CCCGCCAACA | CCCGCTGACG | CGCCCTGACG | GGCTTGTCTG |
| 5401 | CTCCCGGCAT | CCGCTTACAG | ACAAGCTGTG | ACCGTCTCCG | GGAGCTGCAT | GTGTCAGAGG |
| 5461 | TTTTACCGT | CATCACCGAA | ACGCGCGA | | | |

FIGURE 6-3

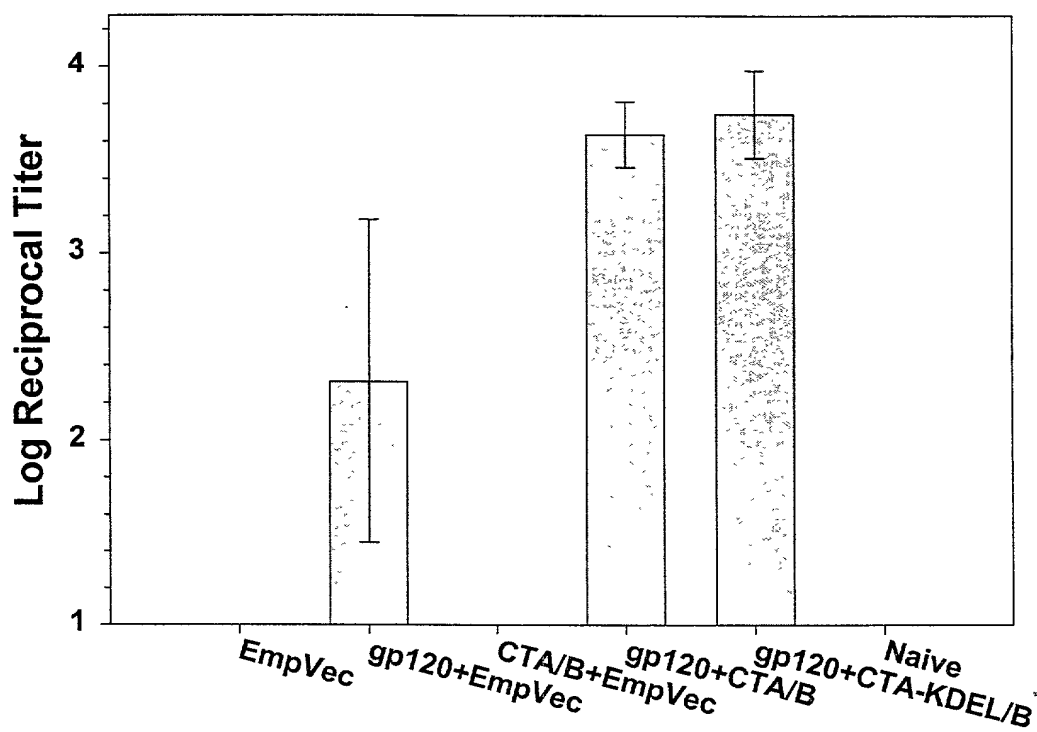


Figure 7

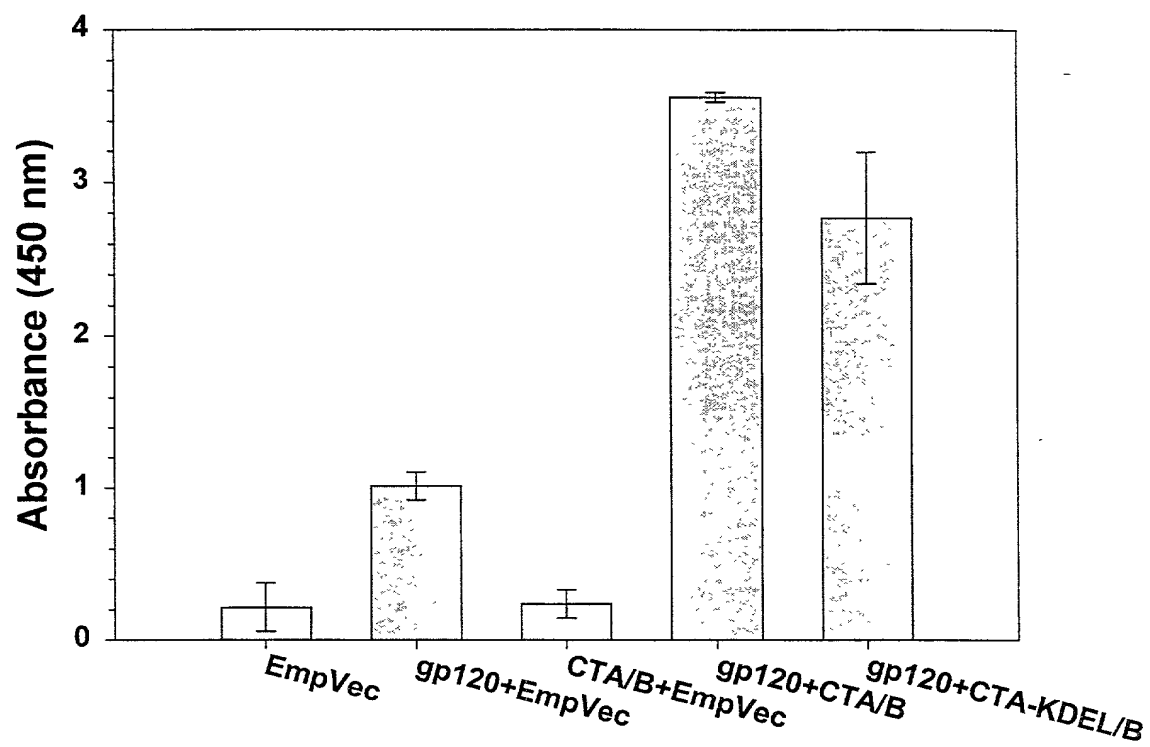


Figure 8

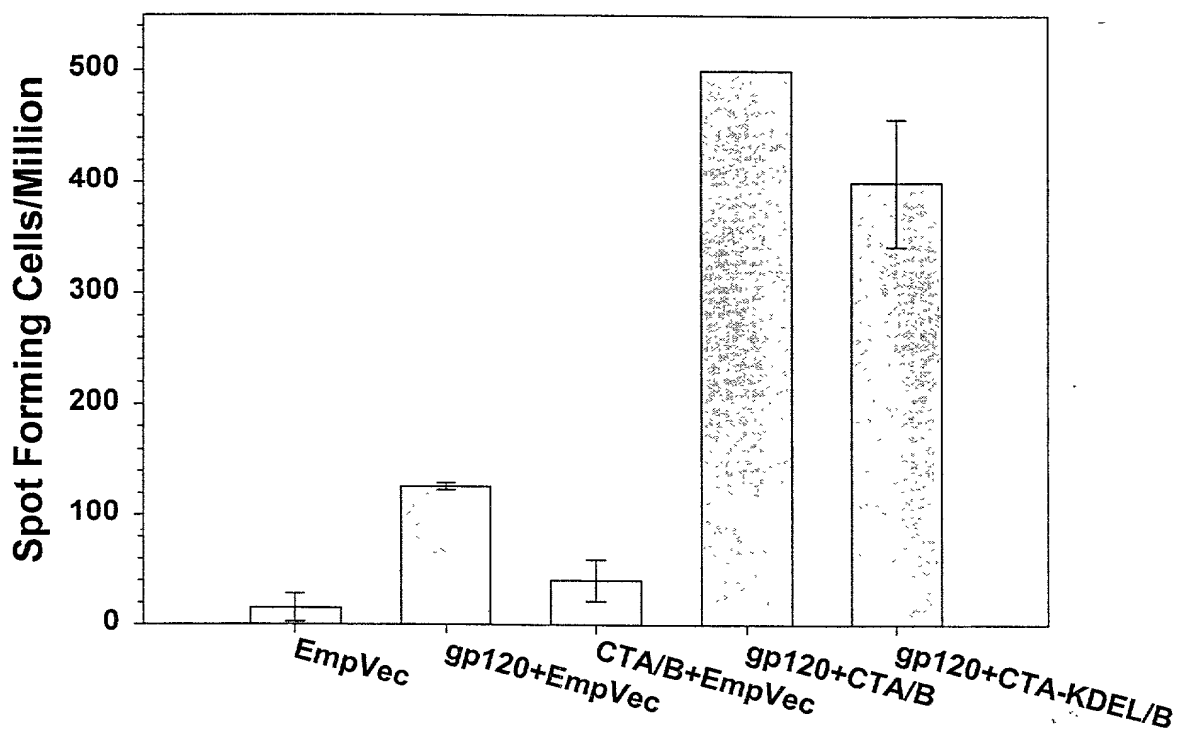


Figure 9

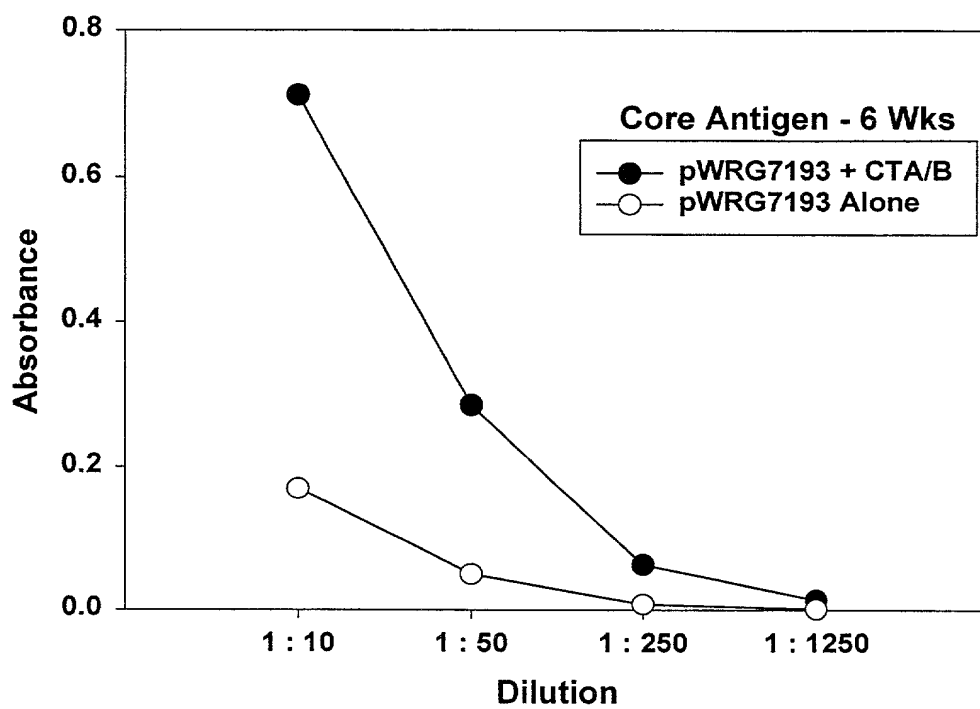


Figure 10

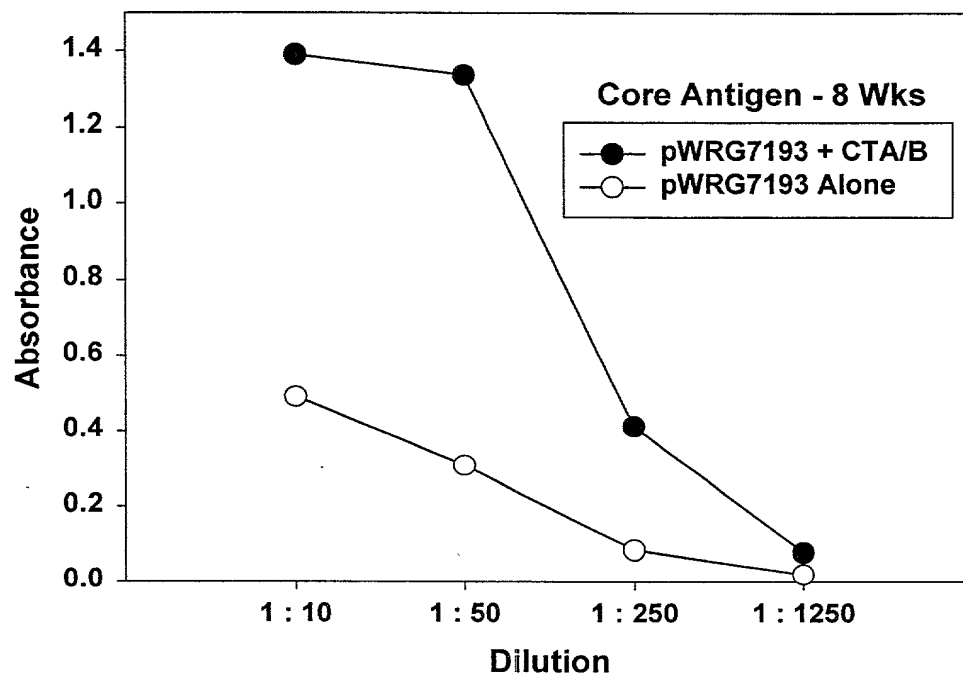


Figure 11

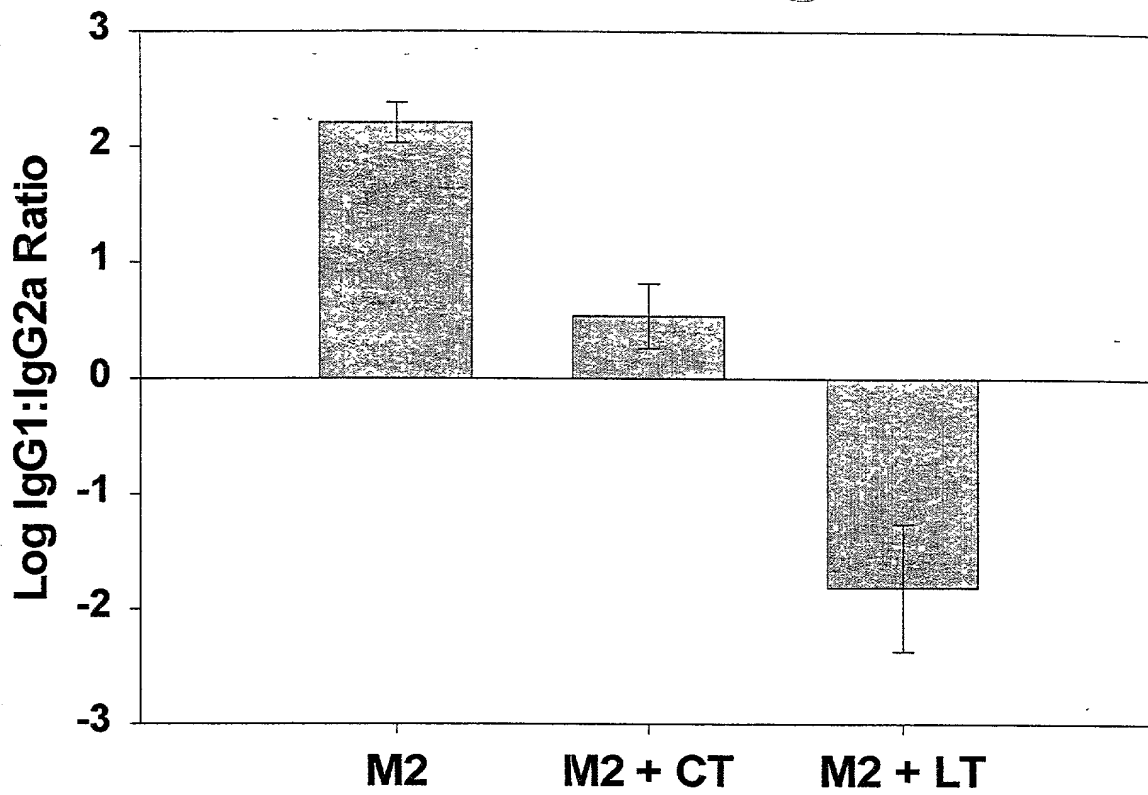
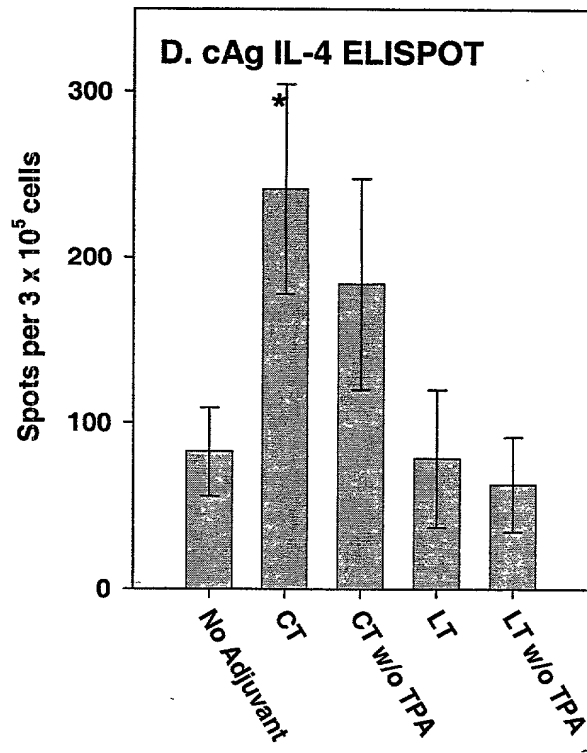
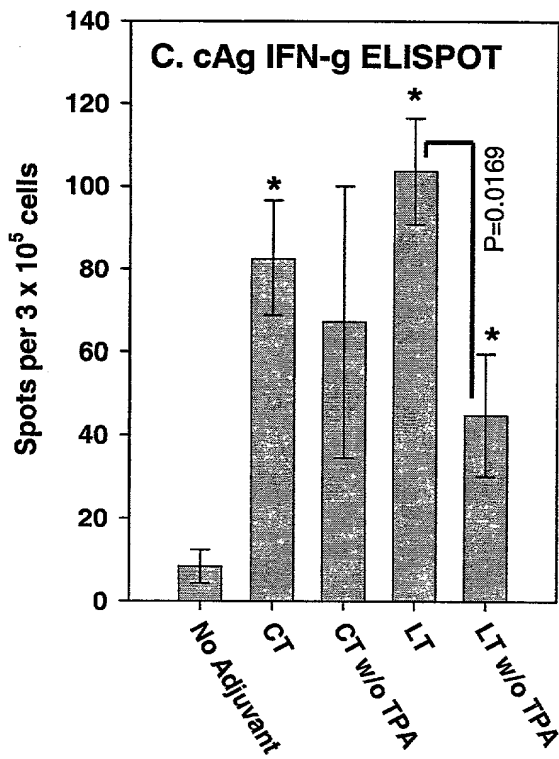
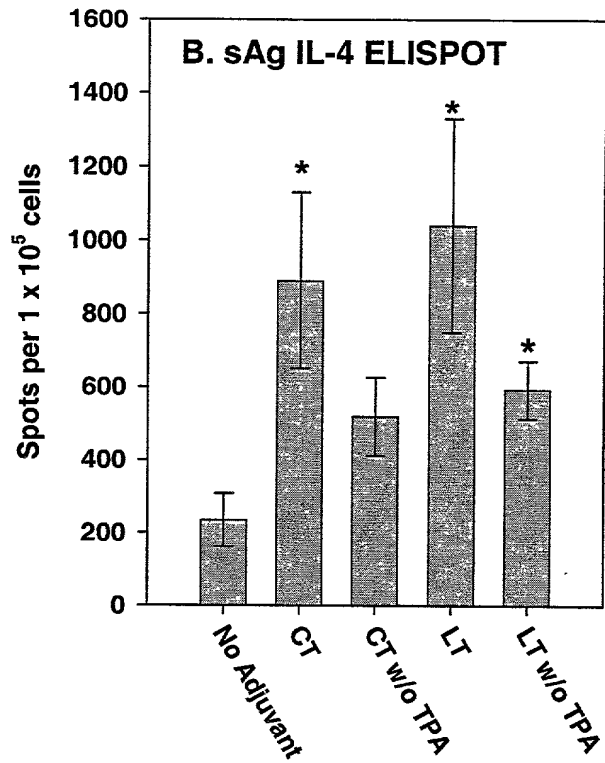
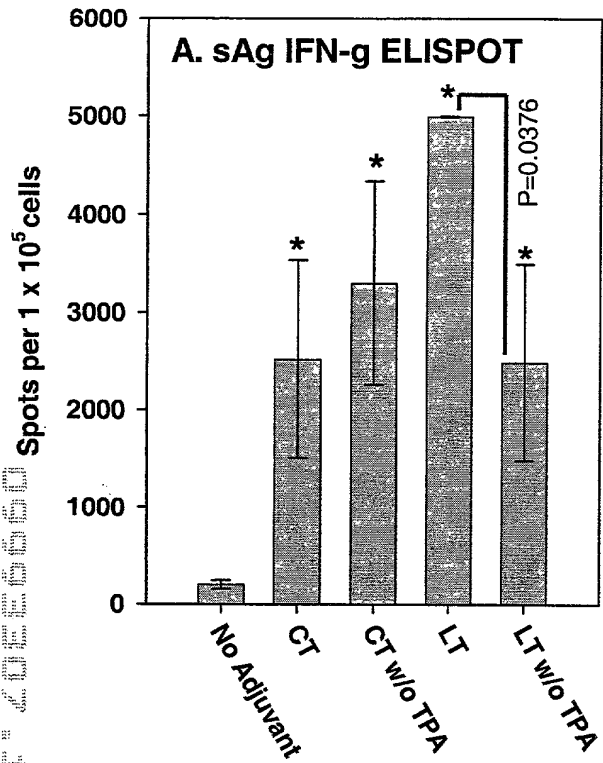


Figure 12



FIGURES 13A-13D

Protection Against HSV-2 Challenge in Mice

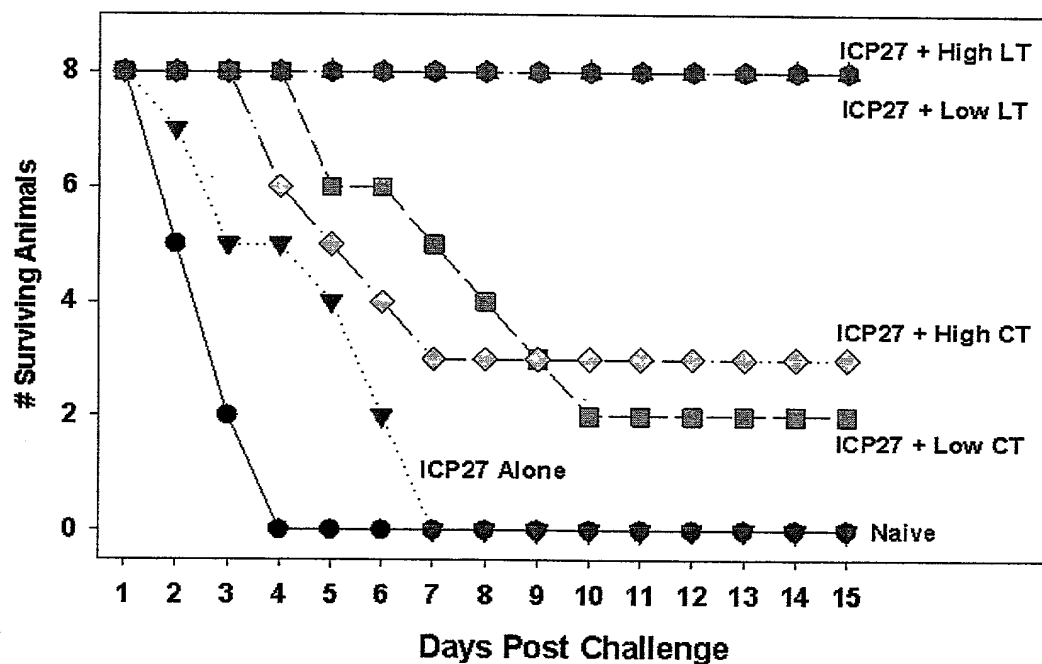


FIGURE 14